NEW EQUIPMENT DIGEST

A Penton Publication

April, 1958

Volume 23—Number 4

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CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 8 and 104

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

SMALL BALL BEARING SCREW
has 3/16-in. ball circle diameter

Ability to position components to within 0.0005 in. for each inch of travel is claimed for this miniature, lightweight ball bearing screw. The precision unit has only 3/16-in. ball circle diameter and provides an efficiency of 90 per cent or higher. It will operate at near maximum efficiency at temperatures as low as −65° F. Applications include electronic controls, radar tuners, telemetering systems, automatic switching devices, and electronic machinery controls. Made by **General Motors Corp.**, Saginaw Steering Gear Div., Dept. NED, Saginaw, Mich.

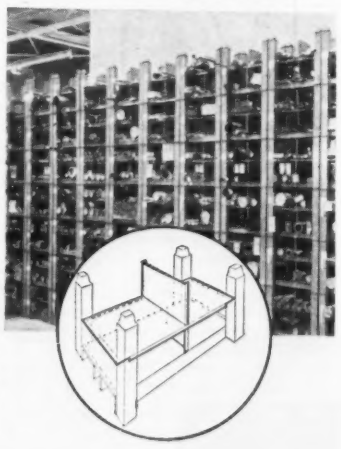
▲ For more details circle **NED-1 D8** on enclosed inquiry slip ▲

AUTOMATIC DIE HANDLER
elevates die and worker 10 ft

Automatic die handling and storage is possible with this Model WWL-120 Walkie Worklifter. The battery operated unit elevates both dies and worker, and can also be used to transport tools to and from machines. The articulated operator's platform is picked up by the load platform as it rises, enabling the operator to work at die level at shelf heights up to 10 ft. Roller frame on the die platform facilitates smooth die transfer. This 2000-lb capacity unit has a 12-v, 205-amp-hr battery and a built-in charger. Traction unit operates at two speeds forward and reverse. Made by **Economy Engineering Co.**, 4509 W. Lake St., Chicago 24, Ill.

▲ For more details circle **NED-2 D8** on enclosed inquiry slip ▲

STOCK STORAGE RACKS
for rod, pipe, sheet stock, parts



Flexibility of Mini-Module line of stock storage racks is increased by enabling the user to insert special shelves and/or four-way dividers. The Model BS, CS, and DS racks for storage of rod, pipe, sheet stock, metal parts, and other items are offered in four capacities from 2500 to 7500 lb per unit. Each can be divided into separate compartments so that one rack may be used to store items of different types and sizes. Nesting caps permit stacking in vertically interlocked tiers. Made by **Jarke Mfg. Co.**, Dept. N, 6329 Howard St., Niles 31, Ill.

▲ For more details circle **NED-3 D8** on enclosed inquiry slip ▲

CUTTING LANCE
penetrates concrete or metal

Any thickness of concrete or ferrous or nonferrous metal can be pierced by the Oxweld ACL-3 powder lance. Lengths of standard black iron pipe are fitted into a quick-release, chuck-type holder on the front end of the lance. Oxygen and oxweld metallic powder from outside supply are mixed in the pipe and carried to the material being pierced by the consumable pipe. This mixture is ignited at the end of the iron pipe, producing an extremely high temperature reaction that melts materials in its path. Aluminum powder is added when cutting such materials as concrete. Tests indicate that there is no limit to the thickness of material that can be pierced by powder lancing. Made by **Linde Co.**, Room 2840N, 420 Lexington Ave., New York 17, N. Y.

▲ For more details circle **NED-4 D8** on enclosed inquiry slip ▲

MASTER CONTROL SWITCH
accommodates 4 to 16 circuits

Of mill type construction, this Model VM vertical master switch for heavy duty use is offered in four sizes to accommodate maximums of 4, 9, 12, and 16 circuits. It is available with or without an enclosure, and for either right or left hand operation. Switch is designed for any desk-mounted mill or crane application where space is limited. Spring return to "off" and pushbutton contact in handle are optional features. Made by **Electric Controller & Mfg. Co.**, 4500 Lee Rd., Cleveland 28, Ohio.

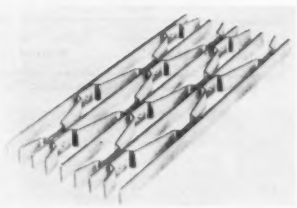
▲ For more details circle **NED-5 D8** on enclosed inquiry slip ▲

TRANSLUCENT PROJECTION PAPER
for making engineering enlargements

Production of high-contrast enlargements from microfilm negatives of engineering drawings or other copy is possible with Kodagraph projection paper, Translucent. Paper will make translucent, vellum type reproductions of tracings for immediate use, or for production of multiple prints on a direct process machine. Fast print-back speeds are possible. Emulsion produces crisp, dense, black lines for highly legible intermediates. Made by **Eastman Kodak Co.**, Graphic Reproduction Sales Div., Dept. E, 343 State St., Rochester 4, N. Y.

▲ For more details circle **NED-6 D8** on enclosed inquiry slip ▲

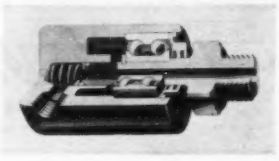
WELDED STEEL GRATING
for flooring, scaffolds, or treads



A ¾-in. size has been added to the Gold Nugget line of all-welded grating. This reversible material has a ¾ x 13/64-in. main bar with ¾-in. deep 12-gage reticuline bars. Made by **Globe Co.**, Products Div., Dept. C, 4000 S. Princeton Ave., Chicago 9, Ill.

▲ For more details circle **NED-7 D8** on enclosed inquiry slip ▲

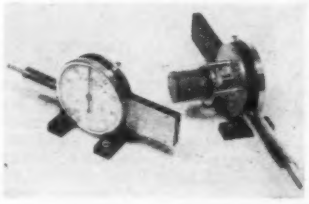
ROTATING SEALS
are now permanently lubricated



Featuring factory-lubricated and sealed ball bearings, standard B2 and C2 Rotorseals transmit air, liquids, or gases from stationary sources into rotating shafts. They are used on air-operated machinery and machine tools to transmit air pressure for operating Airflex clutches and brakes. Units are applicable to all types of single-passage applications at pressures to 150 psi. Model B2 operates at 4000 rpm; the C2, at 3000 rpm. Made by **Fawick Corp.**, Fawick Airflex Div., Dept. A, 9919 Clinton Rd., Cleveland 11, Ohio.

▲ For more details circle **NED-8 D8** on enclosed inquiry slip ▲

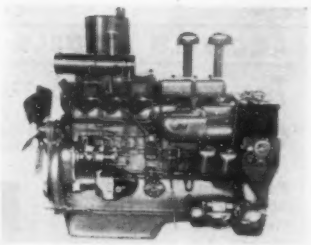
DIAL INDICATOR GAGE
for controlling or automating



Heavy duty S-2037-2 dial indicator gage has a built-in potentiometer and a measuring range up to 4 in., reading in 0.001-in. increments. Gage visually and electrically indicates position or travel of slides, cam actions, work tables, and similar operations. Potentiometer provides electric feedback signal for controlling automated machine or equipment. It is mounted on back of indicator and coupled to the hand pinion. Made by **B. C. Ames Co.**, 99 Lexington Ave., Waltham, Mass.

▲ For more details circle **NED-9 D8** on enclosed inquiry slip ▲

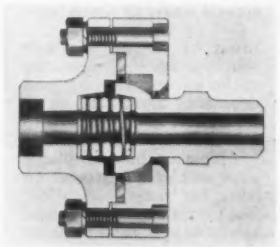
DIESEL AIR COMPRESSOR
delivers 125 cfm for power use



This compact, en bloc, 125 Pneumadiesel is a full-diesel, engine-driven air compressor with a capacity of 125 cfm. It has a 12-v starting system, starts on gasoline, and then switches to full-diesel operation. It is available on skids, two-wheel mounting, and as integral part of tractor or drilling equipment. Made by **Schramm, Inc.**, Dept. NED, 900 E. Virginia Ave., West Chester, Pa.

▲ For more details circle **NED-10 D8** on enclosed inquiry slip ▲

SWIVEL JOINTS
for high pressure and temperature



Suited for steam pressures to 750 psi and temperatures to 750° F, this Series 750 Type S swivel joint is made in 1 and 1¼-in. sizes with screwed or welding ends. They provide pivot points in pipe hook-ups to make piping movable or flexible. The 11CAS high-density carbon gasket compensates for wear and has low coefficient of friction. Made by **Barco Mfg. Co.**, Dept. J-10, 500 N. Hough St., Barrington, Ill.

▲ For more details circle **NED-11 D8** on enclosed inquiry slip ▲

EFFECTIVE EFFICIENT ECONOMICAL

ZAGAR STANDARD MACHINE TOOL SIZES FIT ALL MAKES

way to HOLD your work — and your business WITH

Zagar COLLETS

Don't be caught short! Keep a supply of Zagar collets on hand. Five types: No. 310 Zagar Master; Nos. 2 and 6 W. & S.; No. 5-C; No. 6 W. & S. pads. All but Zagar No. 310 are standard machine tool sizes. All collets are made of oil-hardened tool steel; have flat tops for locating purposes.

Ask for Catalog N-4.

Order by mail for shipment from stock.

ZAGAR INCORPORATED 23880 Lakeland Blvd., Cleveland 23, Ohio

Zagar TOOLS FOR INDUSTRY and SPECIAL MACHINERY

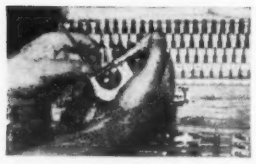
For more details circle NED-12 D8 on enclosed inquiry slip

Accurate, low cost, tapered

GAGE SET

SELECT . . .

INSERT . . .



MEASURE . . .

Conveniently boxed.

Easy selection.

86 Gages.

From .014 dia. to .252 dia.

Designed to measure any *straight thru holes* with split tenth accuracy, these gages pay for themselves over and over again. They are made of hardened alloy steel and are used to measure: actual size of hole from .014 to .252 within tenths; concentricity between hole and O.D. when used as an arbor supported between two V blocks; width of keyways; location of holes in dies and jigs and production parts. Easy as 1-2-3 to use. Use them to efficiently complement your present gaging methods.

HEIL GAGE CO.

Reg. U. S. Pat. Off. 445 ADIRONDACK ST., ROCHESTER 6, N. Y.

For more details circle NED-13 D8 on enclosed inquiry slip

ARCWELD MODELS CE, JE

Two Musts For Accurate

Creep Rupture Testing

Arcweld Model CE Creep Tester

Performance-proved Model CE offers two capacity choices: 12,000 or 20,000 pounds. Occupies only 817 square inches of floor space. Operated by push button electric weight elevator or automatic inch-down. Elevator maintained fraction of inch below weight pan. Prevents shock when specimen breaks. Other features: adjustable counterbalanced lever arm • precision knife edges • substantiated axial alignment • self-aligning, heat-resisting grips • keyed lower extension grip • optical creep measuring equipment.

Compact, economical Model JE was developed for plants with limited floor space. Available in 12,000, or 20,000-pound capacity. All control instruments mounted on single-hinged panel. Automatic creep recording equipment. Precision guided-way drawhead offers ultimate in operating possibilities when specimen must be tested without shock, bending, torsional or cyclic effects, varying load or axiality. Drawhead travel for more than 5 inches also available.

Above machines available with vernier adjustment on lever for ratio calibration. Dual ratio lever system also available at slight additional cost. Write today for more information.

ARCWELD MANUFACTURING COMPANY
P. O. Box 311, Grove City, Pa

For more details circle NED-14 D8 on enclosed inquiry slip

Plan Now to Attend the Tool Show in Philadelphia, May 1-8, 1958

Nearly 500 exhibitors and over 100 technical papers will highlight the 1958 Tool Show and the 26th Annual Convention of the American Society of Tool Engineers at the Philadelphia Convention Center from May 1 to 8, 1958. On display will be many products, processes, and materials which could lead to more profitable manufacturing, savings in man-hours or overhead, improved products. Among the short-cuts to production economies will be numerical control equipment, cutting tools, automatic assembly and work-holding devices, and automated quality control equipment.

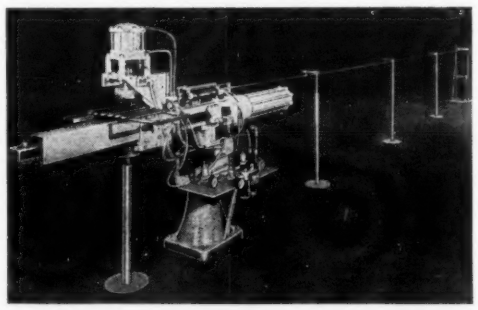
More than 100 experts will discuss such subjects as automation, guided missile tooling, nuclear products, precision control, surface finish, ceramic and carbide tooling, and new tooling techniques. Symposiums will be staged on numerical control, powder metallurgy, metal-cutting research, and shaped diamond tools. A complete program and hotel information is obtainable by writing to the American Society of Tool Engineers, 10700 Puritan Ave., Detroit 38, Mich.

We will be looking forward to meeting you at this ASTE Tool Show in Philadelphia. Why not drop in to the NED booth? It's No. 1616.

A. N. Gregg
EDITOR

THIN-WALL TUBING BENDER handles 40-ft long tubing

Wrinkle-free bends on 0.017-in. wall copper and aluminum tubing are made by Model S Bend-Ex Serpentine Bender at speed up to 900 bends per hour.



Unit will easily handle tubing up to 40 ft long, making 180-degree bends with 1/4 to 5/8-in. diameter on minimum centerline radii. Thus, it can make coils measuring 24 x 24 in. from a single tube. Completely air operated, and foolproof, unit has fully automatic head, feed, and table return, and has a quick-change angle selector. Made by **Paul Machine Tool & Die Works**, Paul Machine Tool Div., Dept. S, 4600 S. Kedzie Ave., Chicago 32, Ill.

For more details circle NED-15 D8 on enclosed inquiry slip

UNUSUAL OPTICAL BUYS

INFRARED SNIPERSCOPE TELESCOPE & PARTS

See in the dark—without being observed. War surplus Sniperscope M-2. Gov't cost about $1200. Used for industrial plant security; research lab experiments; infrared photography; spectroscopy, etc. Instrument complete, ready to use. Includes Power Pack, infrared light source. Will operate from 6 V auto battery. Battery or transformer available.

Stock No. 85,053-AE $150.00 f.o.b.
Shpg. Wt. approx. 12 lbs. Barrington, N. J.

Save still more money! Build your own Sniperscope! We will furnish instructions—parts, including: Power Packs, 1P25A image tubes, light units, filters, etc. For details—request FREE CATALOG "AE"
Order by Stock No. Send Check or M.O.—or order on open account.

Check, Measure, Inspect with this 6 POWER POCKET COMPARATOR
(Complete with Leather Case)
MEASURES • Angles • Radii • Circles • Linear—in both decimal inches and millimeters.
Used to check layouts, machining on tools, dies, gauges; to check threads, chamfers, wear on cutting tools, etc.

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EDMUND SCIENTIFIC CO., Barrington, New Jersey

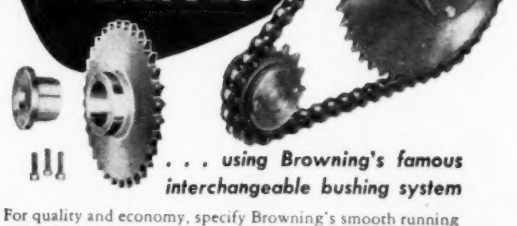
For more details circle NED-16 D8 on enclosed inquiry slip

TAPMATIC CORPORATION
845 West 16th Street • Costa Mesa, California • Phone Liberty 8-3404

For more details circle NED-17 D8 on enclosed inquiry slip

Save time and money—

BROWNING ROLLER CHAIN DRIVES



. . . using Browning's famous interchangeable bushing system

For quality and economy, specify Browning's smooth running roller chain and precision sprockets with simplified split taper compression bushing. Browning's unbreakable bushing mounts quickly, easily—saves shop time, lowers costs. Also used in Browning couplings, paper pulleys, sheaves; standardizes plant on one-type bushing.

Send for FREE NEW CATALOG

52 pages of engineering data on Browning Roller Chain Drives. Ask for catalog CD-102.

Browning MANUFACTURING COMPANY
MAYSVILLE, KENTUCKY

For more details circle NED-18 D8 on enclosed inquiry slip

50 TONS OF PRESSURE

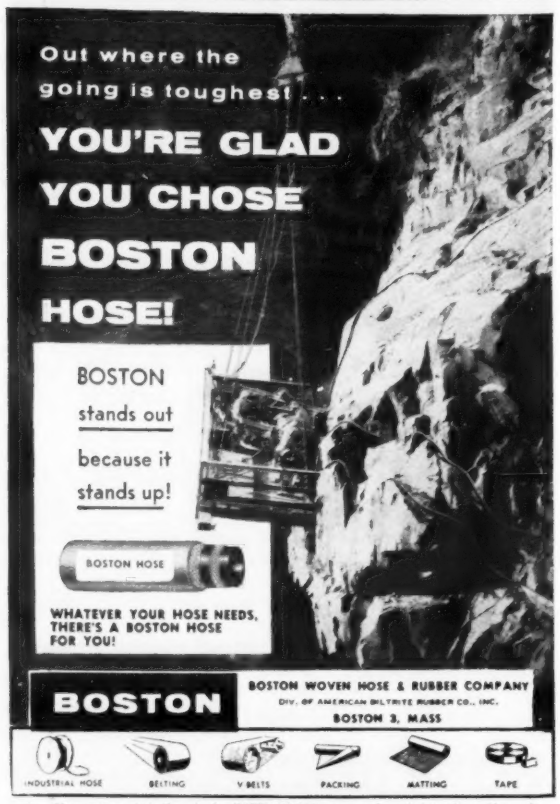
Powerful enough to crush a piece of granite—sensitive enough to crack an eggshell without breaking the egg—that's the 50-Ton capacity Wabash Hydraulic Laboratory press's rugged 4-column design for uniform pressure. Thermostatically-controlled, heated platens have precision ground surfaces. 7" stroke. Daylight opening adjustable to 15 1/2" (longer columns to order). Two 50-ton models—the 50-15 has 12" x 15" platens, the 50-24 has 18" x 24" platens. Both available for manual operation or motorized. Ideal for lab work, pilot runs, light production, etc. Send for catalog showing the modern Wabash line, giving applications and listing users.

Makers of Wabash Platens—Electric or Steam Heated—Water Cooled.

• Presses from 3 to 50-tons.

Wabash Metal Products Co.
1606 MORRIS ST., WABASH, INDIANA

For more details circle NED-19 D8 on enclosed inquiry slip



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SULPHURIC ACID · CHLORINE · PHOSPHORIC ACID · HYDROCHLORIC ACID · BLEACHES · ALUM SOLUTIONS · ANY CORRODENT!

Fibercast

Chemical PIPE and FITTINGS

WILL NOT CORRODE!

Fibercast, made from thermosetting reinforced epoxy resins, is long-term pipe economy, particularly where highly corrosive conditions are a constant, costly problem. Frequent replacement of piping used to handle corrosive liquids and gases is no longer necessary when Fibercast is installed.

Here are a few of the many other Fibercast money-saving advantages:

- Lightness — minimum installation cost
- Easy fabrication on location
- Takes high temperatures
- 18-ft. support span
- 20-ft. joint lengths
- Standard iron pipe O.D.
- Standard A.S.A. flanges

FIBERCAST COMPANY
A Division of The Youngstown Sheet and Tube Company
Box 727, Sand Springs, Oklahoma

▲ For more details circle NED-21 D8 on enclosed inquiry slip ▲

GAUGES

NOW COMPLETELY CATALOGED WITH ENGINEERING DATA

FOR PROCESS & POWER INSTRUMENTATION

IN PLANT & O.E.M.

KUNKLE GAUGES

Complete, broad range line makes gauge application-specification easy with assured results backed by 50 years of gauge manufacturing experience.

Ranges from 15 p.s.i., or 30" of vacuum, to 20,000 p.s.i.

Bourdon tubes of bronze, drawn or bored s/s, and other alloys

YOUR COPY SHOWING NEW GAUGES AND SPEC. DATA NOW AVAILABLE WRITE:

By the makers of dependable Kunkle Valves
KUNKLE VALVE CO. · FT. WAYNE, IND.

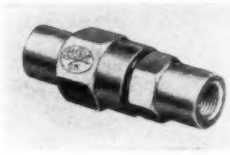
▲ For more details circle NED-22 D8 on enclosed inquiry slip ▲

SOLDERING IRON feeds solder from spool to tip

Weighing only 6½ oz, the Solder-Matic electric iron feeds the solder from a spool through a guide tube to the tip of the iron in response to a trigger feed. Operator's other hand is free to hold work. Tip elements are easily changed hot or cold. Each pull of the trigger advances the solder about ½ in. Solder is wound on throw-away spools (which can be rewound) holding ⅛ lb of solder. The 30-w irons are offered with Armco ingot iron combination tip-elements and easily removable, threaded copper tip-inserts in ⅛, 3/18, and ⅜-in. diameters. Operation is on 110 v. Made by **Atlas Mfg. Co.**, Dept. 45, 1126 S. Decatur St., Montgomery 5, Ala.

▲ For more details circle NED-23 D8 on enclosed inquiry slip ▲

PISTON CHECK VALVES in 3000 and 5000 psi pressure ratings



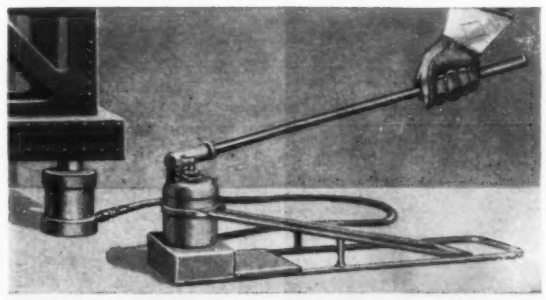
Series 570 piston-type check valves are made of brass or 303 stainless steel with respective operating pressures of 3000 and 5000 psi. Line includes sizes from ⅛ to ½-in. pipe thread as well as ¼-in. Swagelok and 37-degree JIC type flare tubing connectors. Designed for liquid or gas service, valves afford positive reverse flow closure. With Buna-N synthetic rubber O-ring, valve has temperature limits of −40 to 200° F. Made by **Hoke, Inc.**, 217 S. Dean St., Englewood, N. J.

▲ For more details circle NED-24 D8 on enclosed inquiry slip ▲

RETAINING RINGS in sizes up to 2 in.

Line of Spirolox two-turn retaining rings has been augmented by the new Circolox line which offers sizes up to 2 in. in a variety of metals. This new series includes the internal ring with lugs on the inside of the ring, the external ring with outside lugs, and the standard E-ring for shoulders on small shafts. Rings are made of steel, stainless steel, phosphor bronze, and beryllium copper with cadmium or zinc platings, Parkerized coating, blued steel, and black oxide finishes. They conform to all required national standards. Made by **Ramsey Corp.**, 3763 Forest Park Blvd., St. Louis 8, Mo.

▲ For more details circle NED-25 D8 on enclosed inquiry slip ▲



This hand hydraulic jack gets into really small places

Consists of:

- Hydraulic ram, 8-ft. tube, hand pump, 27½-in. steel lever.
- Moves 30-tons 2-ins. in any direction.
- Closed it is 4½"-ins. high, weighs 38 lbs.
- "Lo-Hite" is the name (No. 30-H-4.5).

Ask us for bulletin AD-32-N

Duff-Norton Jacks

▲ For more details circle NED-26 D8 on enclosed inquiry slip ▲

Tachometers

CHRONOMETRIC

Single, double, triple range. Stop and reset button feature. 50-10,000 R.P.M. Ranges.

CENTRIFUGAL

Portable and Stationary models. 100 to 15,000 R.P.M. Ranges. Stop and reset button feature.

STROBOSCOPIC

VISUTAC—the portable, visual self powered stroboscopic. 50-50,000 R.P.M. reading.

TENSIOMETERS

PORTABLE • STATIONARY MODELS "O"-grams to 50 lbs. ranges.

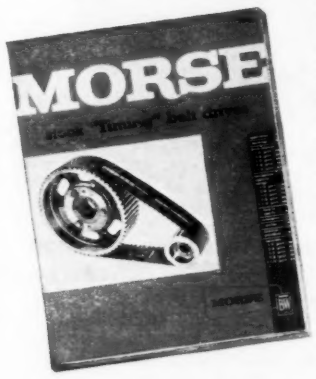
WRITE FOR LITERATURE NED-T

BOULIN INSTRUMENT CORPORATION
10 FIRST STREET · No. PELHAM, N. Y.

▲ For more details circle NED-27 D8 on enclosed inquiry slip ▲

FREE!

NEW 68-PAGE MORSE "TIMING"® BELT DRIVE CATALOG



Combines 6 catalogs in 1!

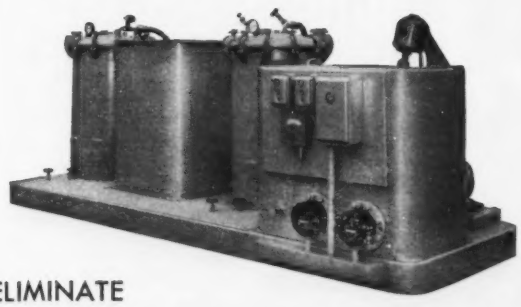
New Morse *"Timing" Belt Drive* Catalog TB-58 tells you everything you need to know about selection, installation, and use of these positive, lubrication-free drives. Combines engineering information with drive-selection data on these five basic pitches: 1/5", 3/8", 1/2", 7/8" and 1-1/4".

Write today for your copy of this handy catalog: MORSE CHAIN COMPANY, DEPT. 19-48, ITHACA, N.Y. Export Sales: Borg-Warner International, Chicago 3, Illinois.

IN POWER TRANSMISSION THE TOUGH JOBS COME TO MORSE BW *Trademark

▲ For more details circle NED-28 D8 on enclosed inquiry slip ▲

PRODUCTION IMPREGNATION CUTS TEST COSTS



ELIMINATE DOUBLE PRESSURE TESTING with IMPREX "Twin 92", dual autoclave. Get complete penetration of sand or die pressure castings of any metal—coarse or micro-porous.

Write TODAY for complete information.

IMPREX DIVISION
IDEAL INDUSTRIES, INC., SYCAMORE, ILL.

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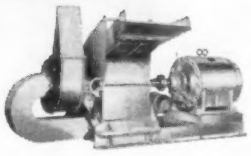
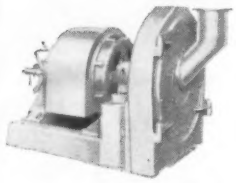
▲ For more details circle NED-29 D8 on enclosed inquiry slip ▲

Bauer

MILLS



HAMMER MILLS
For cracking, grinding, fluffing and preliminary size reduction. Four sizes. High and low speed.



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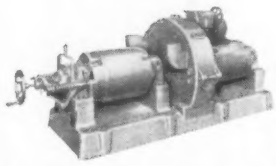

DOUBLE DISC ATTRITION MILLS
Pulverize, fiberize, fluff. Micrometer adj. 2 motors. 5 sizes; 24" to 40" dia.; 40 to 500 hp.

Ask for complete information.

THE BAUER BROS. CO.
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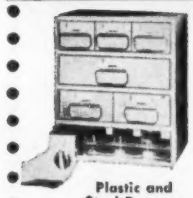

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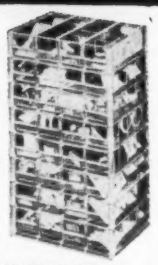

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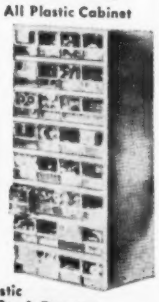

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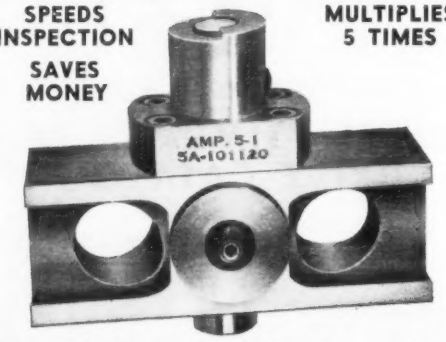

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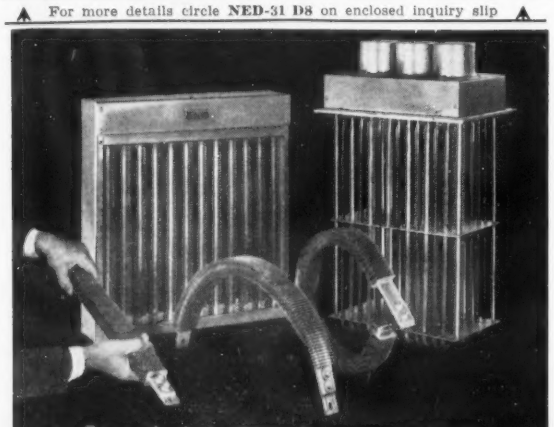

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See other ad on page 71

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Logan UNIVERSAL COUPLINGS *permit "hooking-up" at either end of sections. Not necessary to turn end for end. All ends fit. A Logan feature.*

Light... EASILY MOVED

Logan Wheel Conveyors are first choice where lightweight, portable conveyors are required. The free-running, ball-bearing wheels need but a minimum of grade for operation. In both Steel and Aluminum construction. Sturdy, dependable. For indoor or outdoor use. Send for literature.

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ONLY SICON "takes" the 550°F. temperature reached in sections of this Preway heater grille.

ONLY SICON protects this "Direction Flo-Grille" where temperatures often reach above 500°F.

EVEN A HOT 550°F. *can't faze the finish* when it's

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HEAT RESISTANT FINISH

The upper grille of the famous PREWAY heater often reaches a surface temperature of 550°F. Here, the use of an organic finish was found to require raising grille to protect lower part. But in tests SICON protected so well that re-design proved unnecessary. SICON in smart decorative colors can protect your product too—and save money besides! Write for proof.

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Shawmut "t-d" Renewables have the best time delay characteristics of any renewable fuse. The t-d link gives maximum time delay protection in the higher current ranges as well as in the overload zone. Short-circuit operation is instantaneous, along with a reduction in the rate of rise of recovery voltage. The t-d link notches blow one after the other with rheostat-like action.

HIGH QUALITY - LOW COST

Precision-made. No soldered, welded or steel parts. Simple, sturdy, dependable. Easy to install, take apart or renew. Interchangeable links, renewable parts. Large silver-plated contacts. Adequate 2-way venting.

COMPLETELY RENEWABLE FUSE OR LINK

Complete fuses and/or renewal links are available for either 250 or 600 V circuits; in ferrule ratings, from 0-60 Amps.; in knife-blade ratings, from 70 to 600 Amps. *U.S. Patent No. 2,560,138

Order now or ask for t-d Bulletin 500

t-d - "Made At The Switch"

THE CHASE-SHAWMUT CO.
374 MERRIMAC STREET • NEWBURYPORT, MASSACHUSETTS
Subsidiary of I-T-E CIRCUIT BREAKER CO., Philadelphia, Pennsylvania

Est. 1893

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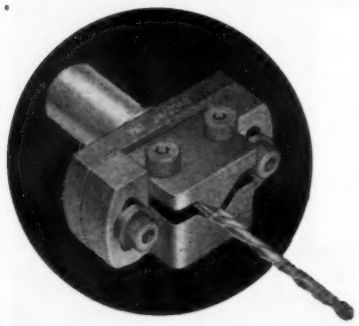

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Brookfield Tool Holders

make tool set-ups easy!

Now, without bushings or collets, on the first try you can set up drills, counterbores, reamers or cutters for almost any machining operation. Precision ground V-jaw vises, Brookfield Tool Holders make even toughest set-ups a cinch. With one wrench, insert the tool, tighten the jaw, then float the tool into dead center position and tighten. It's as easy as that!

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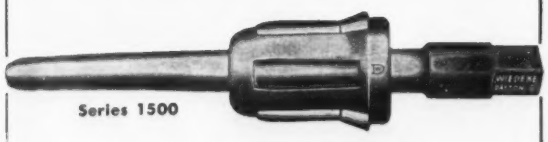
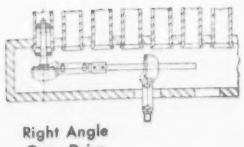
Series 1500

Tube Expanders



Series 1500

Short Mandrels



Right Angle Gear Drive

For installation and maintenance of tubes in drums, headers and similar water tube boilers.

A combination of short mandrels and right angle gear drive speeds up operation and assures efficiency with far less operator-fatigue. The new and smaller reinforced gear drive enters most hand-holes.

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THE GUSTAV WIEDEKE COMPANY
DAYTON 1, OHIO

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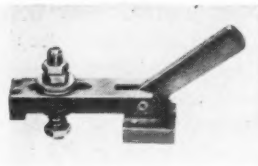
CAM CLAMP
equipped with soft metal pads



Sizes from 1/4 to 5/8 in. are available in this rapid-action, light duty, cam type clamp. Designed for use in restricted space, it has interchangeable soft metal pads which can be shaped to fit any work surface. Pads are attached to the strap by two screws and can be reworked indefinitely to depletion. They can be heat treated for long work runs, and brass or bronze pads can be used for extra-soft work. Clamp assembly has an end slot for lateral adjustment. Made by **Jergens Tool Specialty Co.**, Dept. NED, 712 E. 163rd St., Cleveland 10, Ohio.

▲ For more details circle **NED-41 D8** on enclosed inquiry slip ▲

MINIATURE CLUTCH-BRAKE
is magnetically actuated

Suited for use in computers, office machinery, aircraft components, and other applications requiring minimum torque and small size, this miniature clutch-brake combination has a magnetically set clutch and a spring set brake. It is fail-safe. Torque range of clutch is 100 oz-in., while brake has a torque of 8 oz-in. Designed for fast engagement and release, it has both drive and driven shafts. It weighs 15 1/4 oz and can be wound for any voltage up to 28 v dc. Made by **Stearns Electric Corp.**, Dept. A, 120 N. Broadway, Milwaukee 2, Wis.

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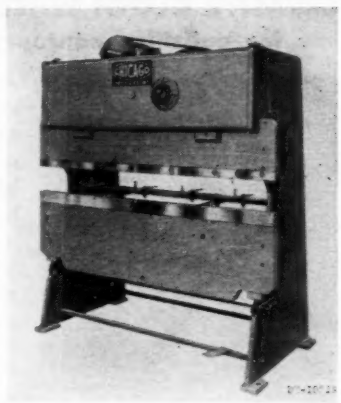
25-TON PRESS BRAKE
bends 60-72-in. 14 or 16-gage steel



Capable of forming 60-in. wide 14-gage or 72-in. 16-gage mild steel, this 25-ton capacity Chicago press brake has speeds of 20 to 50 strokes per minute. Features include welded steel frame, deep - section bed and ram to withstand deflection under load, and a variable speed drive through a friction disc clutch that can be jogged or slipped. Disc type brake stops ram instantly when clutch is released. One-shot system lubricates all bearings and gib surfaces. Made by **Dreis & Krump Mfg. Co.**, 7436 S. Loomis Blvd., Chicago 36, Ill.

▲ For more details circle **NED-43 D8** on enclosed inquiry slip ▲

Rods Balls Screws Candies Nuts Discs Toy Parts Pins Washers Die Cast Parts Bushings Molded Parts Buttons Tablets Capsules Lock Washers Plastic Parts Dowels Electrical Parts Pills Nails Rolls Rivets Ferrules Set Screws Pegs Studs Tokens Coated Gums Bouillon Cubes Die Cut Parts Bolts Screw Machine Parts Sintered Parts Rubber Plugs

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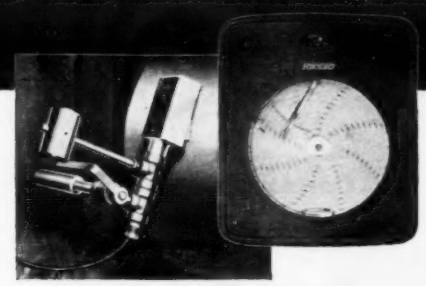

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The system consists of an entirely new type of measuring head . . . plus a Dynalog* Electronic Recorder or Controller. Minimizes ambient or radiant temperature errors. No scoring of the roll. Operating range: —40°F to +450°F continuous, up to +550°F intermittent. Write for Bulletin 405. **The Foxboro Company, 664 Neponset Ave., Foxboro, Massachusetts, U.S.A.**
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FOXBORO Reg. U. S. Pat. Off. INSTRUMENTATION RECORDING • CONTROLLING INDICATING

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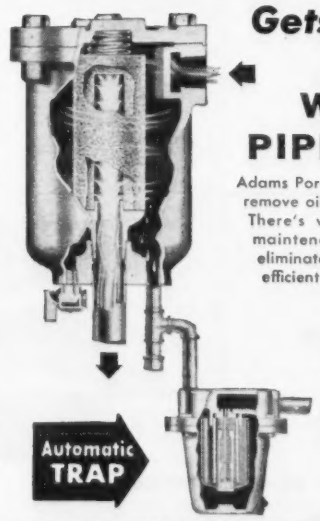

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PIPE SCALE

Adams Poro-Stone Filters efficiently remove oil, water, and pipe scale. There's virtually no service or maintenance. Automatic Trap eliminates attention — assures efficient filter operation.

- Permanent Poro-Stone element
- Centrifugal separation
- Diffused filtration
- Low pressure loss
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ADAMS *Poro-Stone* AIR FILTER

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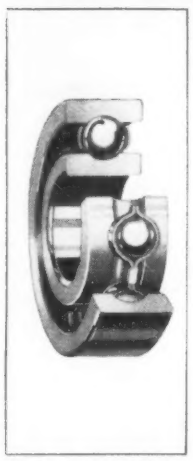
Barden Precision ball bearings

FOR INSTRUMENTS • COMPUTERS AND RECORDERS • AIRCRAFT ACCESSORIES
MACHINE TOOL AND TEXTILE SPINDLES • OTHER PRECISION APPLICATIONS

PRECISION MINIATURE BEARING IMPROVES COMPONENT PERFORMANCE



Barden Precision SR1-4W .0781 bore, .2500 O.D.

The SR1-4 is a standard *Barden Precision* miniature bearing designed and produced for applications requiring extreme accuracy, low torque, and low eccentricity. It is particularly suited for such components as synchros and potentiometers that demand quick-acting, precise, sensitive response to energy input.

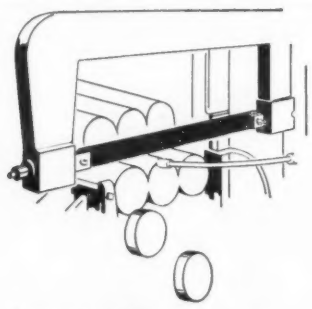
Built to the same dimensional and functional standards as the larger Barden instrument sizes, this *precision* miniature bearing has accuracy and uniformity to meet the most critical requirements, plus performance to match the needs of the application.

Your product needs *Barden Precision* if it has exacting requirements for accuracy, low torque or low vibration . . . if it operates at extreme temperatures or high speed. For less difficult applications, the predictable performance of *Barden Precision* bearings can cut your rejection rates and teardown costs.

Barden Precision bearings are available in a full range of miniature and instrument sizes.

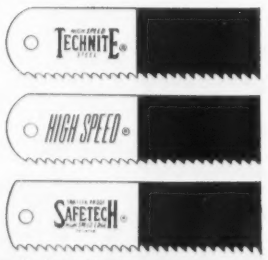
THE BARDEN CORPORATION
59 East Franklin Street, Danbury, Connecticut
Western office: 3850 Wilshire Boulevard, Los Angeles 5, Calif.

For more details circle NED-48 D8 on enclosed inquiry slip



Capewell High Speed Power Hack Saw Blades can take higher speeds and feeds for higher production and profit

3 TYPES FOR EVERY PURPOSE



See Your Capewell Distributor

CAPEWELL

THE CAPEWELL MFG. CO.
HARTFORD 2, CONN.

For more details circle NED-49 D8 on enclosed inquiry slip

DC-AC CHOPPERS
have twin contact arrangement

Twin contacts built into line of miniature dc-ac choppers provide maximum reliability. Two independently adjustable, parallel-connected contacts are used, or a total of four for single-pole double-throw and eight for double-pole double-throw configurations. Case size is 1¼ x 1 x 2 11/16 in. Electrical noise and thermal emf are virtually eliminated through use of a Mu metal case, internal shielding, and a plug-in, low-loss base with gold-plated pins. Eleven models are available for use on 50, 60, 94, or 120 cycles. Made by **Stevens-Arnold, Inc.**, 122 Elkins St., South Boston 27, Mass.

For more details circle NED-50 D8 on enclosed inquiry slip

SUBMINIATURE FUSES
two sizes are hermetically sealed

Physical dimensions of two sizes of subminiature, hermetically sealed fuses permit their use with miniaturized circuits, controls, electronic devices, and electrical equipment. They are made of hermetically sealed glass tubes with lead-ins, and meet requirements for potting and encapsulating. Design resists heavy shocks and vibration. The 0.140 x 0.300-in. size, offered in an amperage range of 1/20 to ½, is rated at 125 v. The ¼ x ⅝-in. size has a 1 to 5 amp range and is rated at 32 v. Larger size has ⅛-in. ferrules and can be furnished with or without lead-ins. Made by **McGraw-Edison Co.**, Bussmann Mfg. Div., 2534 W. University, St. Louis 7, Mo.

For more details circle NED-51 D8 on enclosed inquiry slip

ABRASIVE CLOTH WHEEL
for polishing contours and flats

Adaptable for polishing and finishing contoured as well as flat surfaces, this flap type wheel is made up of hundreds of pieces of coated abrasive cloth. Stiffened construction allows it to resist pressure for high production rates and long life. Wheel can be used on automatic polishing jack operations as well as on bench grinders for small clean-up jobs. Wheel is furnished with aluminum oxide or silicon carbide abrasive in a range of grit sizes, various hole sizes, and in wheel sizes from 6 x 1 in. to 16 x 6 in. Made by **Behr-Manning Co.**, P. O. Drawer 808, Troy 1, N. Y.

For more details circle NED-52 D8 on enclosed inquiry slip

IT'S LIGHT!
Weighs Only 11 Ounces

BROAD VISION DUST and SPRAY HOOD

Patent No. 2537265

- Protection from dust and spray.
- Lighter-cooler-unobstructed vision in all directions. No interference with work to be performed.
- Used to advantage on many maintenance and production operations.
- WRITE FOR BULLETIN NO. 42

IPCO Safety Equipment for all Industries
INDUSTRIAL PRODUCTS COMPANY
2807 N. Fourth St. • Philadelphia 33, Pa.

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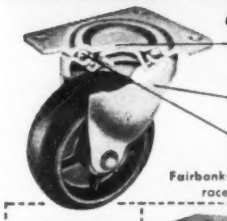
ACHIEVEMENT IN CASTER DESIGN

FAIRBANKS
"LOCKWELD" Swivel Casters—Without King-Pin



CHECK these unmatched advantages:
- No King-Pin. Patented "LOCKWELD" construction eliminates the major cause of caster failures.
- Patented leg designs — disperses shocks and overloads.
- Larger raceways and ball bearings — for faster, easier swiveling.

Fairbanks Series "23" double ball race swivel casters. 3" to 8".

Fairbanks Series "21" single ball race swivel casters. 2" to 3".

Fairbanks Heavy Duty Series "27" double race swivel casters

Fairbanks Series "500" Vulcanized Rubber Tired Wheels.

YOURS ON REQUEST: Casters and wheels catalog complete with specifications.

Order Fairbanks products through your local distributor who is always ready to serve you.

THE Fairbanks COMPANY
393 Lafayette Street, New York 3, New York
Branches: New York 3 • Boston 10 • Pittsburgh 22 • Rome, Ga.
Valves • Truck • Casters • Wheels • Dart & "PIC" Unions

For more details circle NED-54 D8 on enclosed inquiry slip

Speed Versatility and Economy

Tooling costs go down when Speed Vise goes on the job because Speed Vise eliminates the need for expensive jigs and fixtures. Just a simple jaw plate to fit the part being drilled and Speed Vise does the rest. Several interchangeable Speed Vise jigs and fixtures can be made for the cost of one old style box type jig. The operation of Speed Vise tooling is **many times faster** than the operation of such conventional jigs and fixtures. Speed Vise tooling is economical to build, efficient to use, compact to store.

SPEED VISE GIVES YOU 100 JIGS IN ONE

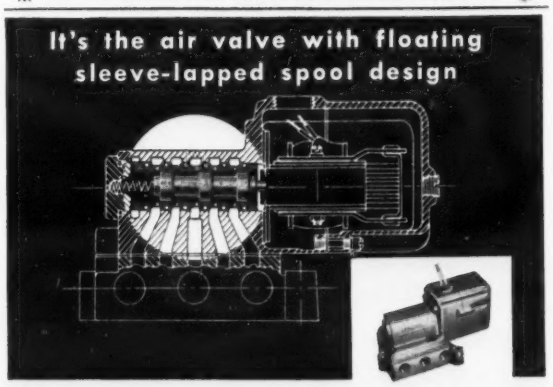
$12.75 to $69.75

- Quick action design for speed. Opens instantly to full capacity to handle work of any size.
- Standardized holes for attaching jigs or jaw plates.
- Lift...slide...lock... that's all there is to the fast, positive locking action.
- Heavy, semi-steel castings for extra strength and a heavy base plate for rigidity.

Write or wire now for information
CARDINAL MACHINE CO.
1819 Dana Street
Glendale, California

For more details circle NED-55 D8 on enclosed inquiry slip

It's the air valve with floating sleeve-lapped spool design

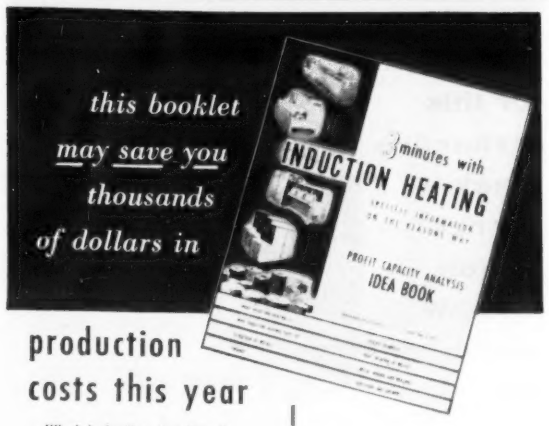


Starts every time—INSTANTLY!
no sticking, lubrication or dirt problems

Valve sticking problems? Never happens with Numatics air valves . . . because the patented floating sleeve-lapped spool design eliminates moving elastic seals, the major cause of sticking. And no-stick, no-leak sealing is just one advantage of Numatics valves. They'll operate on any standard lubricant. They're unaffected by oil detergents or additives . . . and they'll run dry, too, if required! Dirt is no problem, either, because the file hard, razor sharp spool lands and orifice edges chop dirt particles to a fineness that permits passage through the valve without the slightest damage. Reliable is the word for Numatics valves. Get a catalog.

NUMATICS, Inc. HIGHLAND, MICHIGAN
SALES REPRESENTATIVES FROM COAST TO COAST

For more details circle NED-56 D8 on enclosed inquiry slip



this booklet may save you thousands of dollars in

production costs this year

- What Induction Heating Is
- Why Induction Heating Pays Off
- Extrusion of Metals
- Forging
- Specific Examples
- Heat Treating of Metals
- Metal Joining and Brazing
- Questions and Answers

This booklet explains induction heating—its advantages, its uses. Properly applied, induction heating can produce big savings for a modest investment in equipment. Send for a copy today.

MAGNETHERMIC® CORPORATION
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The Engineering Idea Leaders in Induction Heating

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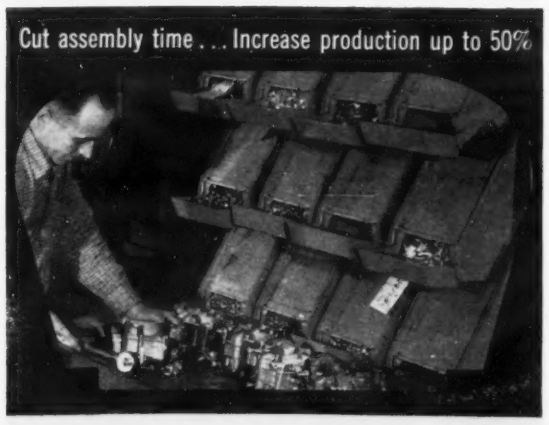
▲ For more details circle **NED-58 D8** on enclosed inquiry slip ▲



INSTALL **NESTIER HOPPER RACKS**

Amazing case studies prove how much Nestier Hopper Racks can speed production. They provide a constant supply of parts at workers' fingertips. They eliminate re-handling of parts on the job, and permit rapid replacement of empty units. Nestier Hopper Racks can be filled at a central point to give more accurate inventory control. Write for literature today. Dept. D-4.

NESTIER® FIRST IN SMALL PARTS HANDLING

NESTIER CORPORATION Subsidiary of THE METAL SPECIALTY CO.
4519 Este Ave., Cincinnati 32, Ohio

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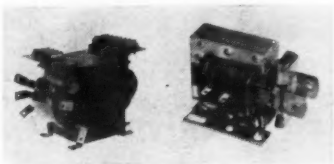
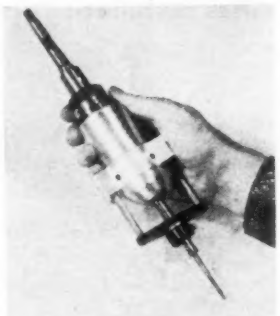
SOLENOIDS & TRANSFORMERS protected against fire and shock



Internal construction of this line of solenoids and transformers assures protection against fire and shock. No increase in size takes place. Failure due to temperature reaching flash point results in only one short, and the arc or molten copper is confined within the coil. Low cost construction materials are used. Wide range of ratings and sizes is available. Made by **Dormeyer Industries**, Dept. NDC, 3418 N. Milwaukee Ave., Chicago 41, Ill.

▲ For more details circle **NED-60 D8** on enclosed inquiry slip ▲

REVERSIBLE TAP DRIVER set includes depth stop assembly



Tap breakage is prevented and tap life is extended by the reversible Safe-Torque tap driver. It is available as a complete set or as an assembly that includes driver, taper shank arbor, hex wrenches, and stop rod only. Complete set includes a depth stop assembly and six tap chucks for No. 0-6, 10, 12, and 14 machine screw tap sizes, and ¼-in. hand tap. All contacting driving parts roll on each other, eliminating sliding friction and precluding heating. Instantaneous release at the preset torque guards against breakage. Torque settings are made by an adjusting ring on the driver. Made by **Scully-Jones & Co.**, 1916 S. Rockwell St., Chicago 8, Ill.

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FLOW RATE INDICATOR features accuracy to 1 per cent

Self-contained Type 7 flow rate indicator with 1 per cent accuracy is designed to be used with turbine flowmeters producing frequency output proportional to flow rate. Frequency converter is unaffected by line voltage variations or changes in frequency. Power input is 115 v, 60 to 1000 cycles. Indicator is available for volumetric or gravimetric measurements. Units calibrated for latter use have built-in specific gravity adjustment. Panel or portable mountings are available. Made by **George L. Nankervis Co.**, Cox Instruments Div., Fullerton at Whitcomb, Detroit 27, Mich.

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REDUCED PRICES ON PAC-A-BLOCK
PALLETIZED CREOSOTED WOOD FLOORBLOCK
REQUEST OUR QUOTATION

No reason to stock carloads today. We carry your Creosoted Wood Floor Block size in stock. For immediate shipment, 25 to 400 sq. yds. shipped within 24 hours—**NO waiting**—carloads 10 days.

Hayden-Shaw Mineral Products
7814 W. Jefferson—Ph: Vinewood 1-1571—Detroit 17, Mich.

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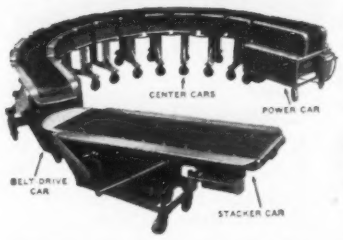
FLEX-BEND CONVEYOR-STACKER

Cuts Handling Time and Costs



- ONE-MAN OPERATION
- SELF-PROPELLED
- COMPLETELY POWERED
- PUSH-BUTTON CONTROL
- 5-FOOT RADIUS CURVES

Faster, easier and lower-cost loading and unloading of box cars or highway trucks—reduces manual-handling to a minimum on many warehouse and manufacturing applications. Conveyor available in any length (with or without stacker).

Completely described in Bulletin F-957, write for free copy.

JERVIS B. WEBB COMPANY
8921 ALPINE AVENUE • DETROIT 4, MICHIGAN
OFFICES THROUGHOUT THE WORLD.

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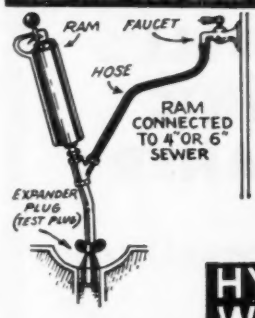
CLEARS CLOGGED DRAINS in Seconds!



The ideal plumbing service tool. Can pay for itself in one application!

Smashes through the most stubborn blockages, then flushes clean — all in one operation!

Comes equipped with self-contained manual compressor (can charge Ram to 100 lbs. in 30 seconds!) and drain adaptors in 6 sizes!

HYDRAULIC WATER RAM

Anyone can operate it! Thousands already in use, have saved *millions* of dollars in industry and institutions. Why lose time, suffer inconvenience, waste dollars needlessly on either completely blocked or slow-moving sewers, drains, fixtures? The HYDRAULIC WATER RAM clears severest stoppages with SPLIT-SECOND HYDROSTATIC IMPACT! . . . Shatters blockage, then flushes clean. No snakes, chemicals, cables. No pushing through. Works perfectly, *vent* or *no vent!* Nothing to wear out. You risk nothing on our 30 day free trial offer, at our expense. Write for details.

Works perfectly with all clogged fixtures, toilets, sinks, urinals, etc. Equipped with 4" rubber cone, ideal for toilets, *plus* set of 5 tapered adaptor plugs for other drains or sewers.

Write for Information, Prices, Free Trial Offer — Today!
HYDRAULIC MANUFACTURING CO.
DEPT.-NED-4 KIEL, WISCONSIN

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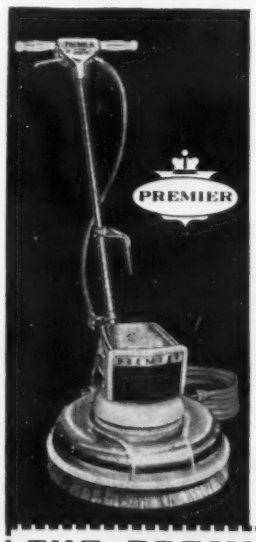

BOLD NEW DESIGN IN FLOOR MACHINES

50% less brush wear
25% more efficiency
Lighter; easier handling

Premier's new all-purpose floor machine now gives you scientific weight distribution. Reduced and balanced weight means that only the ends of the bristles touch the floor. New electronic starting system eliminates breaker point failure. Scrubs, waxes, polishes, shampoos, buffs, dry cleans, grinds, sands *all* floors. Models range from 12 to 22" brush sizes.

For FREE illustrated literature fill in and mail request form today.

THE PREMIER COMPANY
Dept. 102, 755 Woodlawn Ave., St. Paul 16, Minn.
In Canada: 35 Gerrard St. West, Toronto 2
Attention: Gordon L. Bowman, V.P. & Sales Mgr.
Please rush me FREE details on Premier Floor Machines. Thank you.

NAME . . . . . .
COMPANY . . . . . .
ADDRESS . . . . . .
CITY . . . . . STATE . . . . . .

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BREATHE EASIER
in Dust, Fumes, Smoke

with Dupor No. 4 RESPIRATOR

Double filters provide comfortable breathing. Soft rubber face mask gives air-tight fit. Sanitary face cloth protects against dermatitis or chafing. Patented exhalation valve guards against re-breathing stale air.

Cover scientifically designed respirators have been adopted as standard equipment by industries the world over. Free literature on request describing models for every purpose. See your safety equipment supplier or order sample direct. Model shown—only $2.00 postpaid.

INDUSTRIAL SAFETY EQUIPMENT ASSOCIATION

H. S. COVER, Dept. 405 South Bend 14, Indiana
"Respirators for Industry since 1894"

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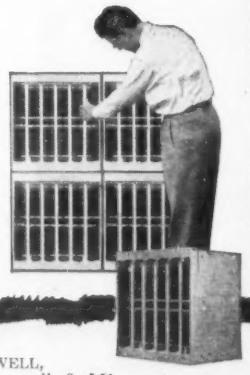
HONEYWELL'S ELECTRONIC AIR CLEANER

ends processing problems caused by air-borne dust, abrasives, soot, smoke and grime

These costly microscopic spoilers never get a chance to ruin the work when Honeywell's Electronic Air Cleaner is on the job. It electronically traps particles so small they are visible only through an electron microscope—outperforms ordinary mechanical air filters six to one! Saves cleaning and painting costs, too. Modular construction; easy to install. Fill out coupon for complete details.

SOON PAYS FOR ITSELF IN...
- film and data processing
- lens grinding
- furniture finishing
- electronic tube manufacturing
- constant temperature and humidity rooms
- switch and relay rooms
- broadcast transmitters
- many other applications



MINNEAPOLIS-HONEYWELL,
Dept. NW-4-72, Minneapolis 8, Minnesota
Please send free copy of Electronic Air Cleaner booklet, "A Close Look At Air-Borne Dirt."
We have the following problems:_____

*Name*_____
*Company*_____
*Address*_____
*City*_____ *Zone*____ *State*____

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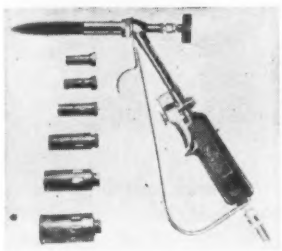
LP-GAS TORCH
for soldering, brazing, and heating



Designed for shop and maintenance use, this Sievert torch operates on liquefied petroleum gas. Seven sizes are available, and seven different burners adapt torches for any heating, soldering, brazing, or melting job. Practically any flame size or shape from needle to powerful, voluminous type can be obtained. Refillable LP-gas bottles in a range of sizes are also available. Distributed by **Rexo-Therm, Inc.,** 316 Union St., Plainfield, Ill.

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SPACE-SAVING BALL BEARINGS
split design simplifies installation

Extremely thin cross-section dimensions of Midget T Series split ball bearings enable them to bridge the gap between miniature bearings and conventional inch series instrument bearings. Some sizes require less than 15 per cent of the volume of counterpart bore sizes in conventional ball bearings. The ratio of load capacity to unit volume of bearing is higher than in instrument bearings. Four sizes have bores of 3/8, 1/2, 5/8, and 3/4 in., with outside diameters only 1/4-in. greater. Cross-section is 1/8 in. and widths are 5/32 in. Standard material is 440C stainless steel for rings and balls and machined phenolic for the one-piece retainer. Made by **MPB, Inc.,** Split Ball-bearing Div., Lebanon, N. H.

▲ For more details circle **NED-70 D8** on enclosed inquiry slip ▲

SEGMENTED POLISHING ROLL
for roughing, finishing operations

Use of this segmented flat rubber polishing roll for roughing, semifinishing, and finishing operations effects savings by requiring the replacement of only the damaged segment when damage occurs. Dressing down of new sections is done on the machine. Segmented roll can be made in various tough, durable rubber compounds with the serrations molded in. Segmented principle can be applied to feed, conveying, and pinch rolls. Made by **Chicago Rubber Co.,** Dept. 157, 651 Market St., Waukegan, Ill.

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FASTER FINISHING...LOWER COSTS
with Buschman BUSH-LOCK Cable Conveyor Components

Bush-Lock Cable Conveyor systems, "custom-built" on the spot from the low-cost package of standard stock components, can be integrated with belt and roller gravity systems to meet every finishing need.

An overhead cable-and-belt conveyor combination synchronized for speed rate is used by this manufacturer of television cabinets to get more smooth efficiency per foot of floor space in hand rubbing operations.

Submit your production problem. Buschman specialists will solve it.

Every Way Better — *Write for literature today.*

E W B — **THE E. W. BUSCHMAN CO.**
4482 Clifton Avenue Cincinnati 32, Ohio

CONVEYORS FOR EVERY INDUSTRY

C-248-EWB

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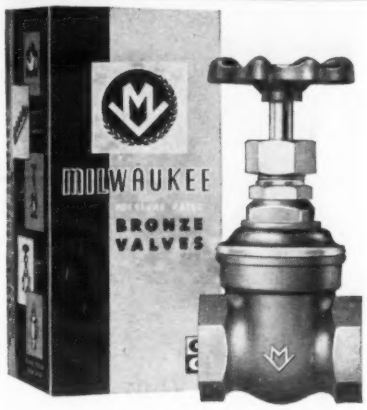
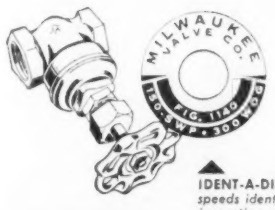
Look for this distinctive black & bronze carton ...new package for



YOUR BEST VALVE VALUE



Performance-wise, price-wise—you're better off with Milwaukee valves for any industrial need. Superior design and trouble-free service add up to *highest quality at lowest possible cost.* Compare data and prices at your jobber or write direct.

▲ **IDENT-A-DISC** *on each Milwaukee valve speeds identification . . . simplifies inspection, maintenance, re-ordering.*

THE MOST COMPLETE LINE OF PREMIUM QUALITY VALVES
MILWAUKEE VALVE COMPANY
A subsidiary of Controls Company of America
2376 South Burrell Street • Milwaukee 7, Wis.

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REYNOLDS CHEMICAL PRODUCTS CAN MOLD FOR YOU A URETHANE FOAM UNEQUALED IN AMERICA TODAY

Let Reynolds show you how plastic foam can improve your product . . . and cost you less. Write today for illustrated brochure, for specific information about REYNOFOAM.

1200 N. MAIN ST. REYNOLDS CHEMICAL PRODUCTS COMPANY ANN ARBOR, MICH.

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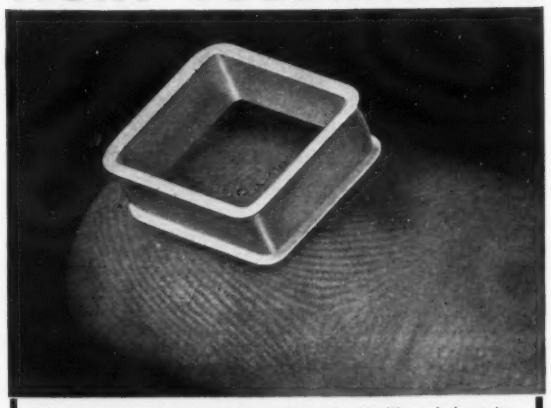
VOLUME-PRODUCED TO TIGHT TOLERANCES



H&H close tolerance part—moving coil form, volume-produced for d'Arsonval galvanometers. Width .362 ± .002 • Length .4219 ± .001 • Depth .168 ± .001 • Wall thickness .008 ± .0005

SPECIALIZED TUBULAR METAL PARTS

Want specialized metal tubular parts in extremely close tolerances? At lowest possible cost? H&H Machine Company volume produces an almost endless variety—to your specifications, in all commercial alloys, in sizes from .01 in. to 5/8 in. diameter. No production difficulties—we do the complete job from tooling up to rigid inspection. No design problems—we make our own tools and dies to meet specified tolerances precisely.
Write for literature, or send blueprint with quantities desired.

H&H MACHINE COMPANY, INC.
Noble & Jackson Sts. Norristown, Pa.
Phone BRoadway 2-6453 BRoadway 9-2327

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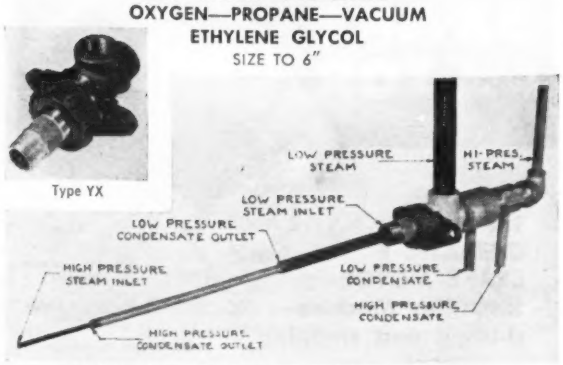
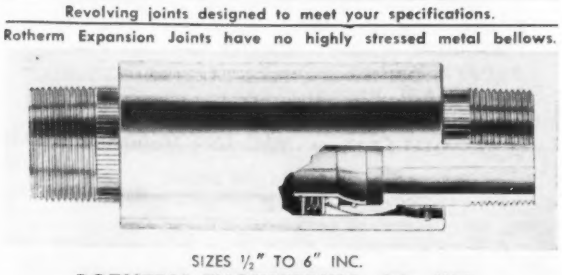
ROTHERM REVOLVING JOINTS

WITH AS MANY AS 4 PASSAGES.
FOR
AIR—STEAM—HYDRAULIC—
OXYGEN—PROPANE—VACUUM
ETHYLENE GLYCOL
SIZE TO 6"



Revolving joints designed to meet your specifications.

Rotherm Expansion Joints have no highly stressed metal bellows.



SIZES ½" TO 6" INC.

ROTHERM ENGINEERING CO. INC.
7280 W. DEVON AVE. CHICAGO 31, ILL.

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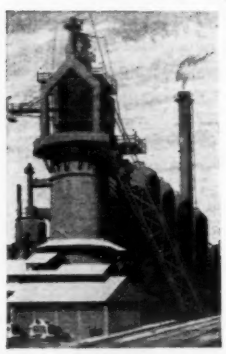
Investigate . . . then SPECIFY

RUST-SELE

101 DAMPPROOF RED PRIMER

Armor against corrosion



A product of modern protective coating technology Rust-Sele's specially processed fish oil vehicle —

- Insures maximum penetration and adhesion because of its unique "preferential wetting" characteristics.
- These special characteristics insure positive protection against moisture and corrosive industrial fumes—industry's most expensive maintenance problem.
- Penetrates rust and bonds to base metal—no sand blasting or expensive surface preparation needed.
- Eliminates premature coating failures which occur from using ordinary paints made with common oils.

Write today for independent testing laboratory report and specification catalog.

RUST-SELE COMPANY
9811 MEECH AVENUE • CLEVELAND 5, OHIO

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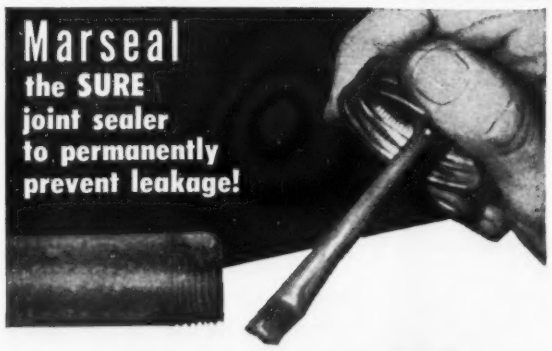
Marseal

the SURE joint sealer to permanently prevent leakage!



Try it! You'll agree no other pipe thread and joint sealing compound seals like Marseal.

Marseal makes a permanent, solvent-proof flexible connection that lasts until taken apart. It is guaranteed!

- Insoluble in gasoline, oils, kerosene, L-P gas, refrigerants, chlorinated hydrocarbons
- Makes permanent joints — easy to take apart.
- Withstands pressure and vibration.

Write now for complete information and your special introductory offer!

MARGATE MANUFACTURING CO
MARGATE, NEW JERSEY

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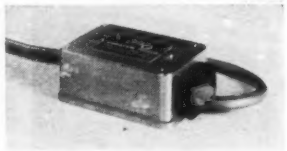
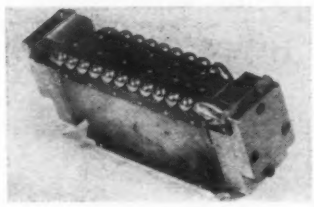
VIBRATION PICKUPS
combine heat stability, sensitivity



TD Series of vibration pickups combine the temperature stability of magnetic damping with the sensitivity usually associated with fluid damped units. Sensitivities of over 300 mv/in./second are produced. Weighing only 9 oz, five compact models are available with natural frequencies ranging from 1.8 to 5.6 cps. Undamped models respond to 2500 cps; damped units, to 1500 cps. Made by **Southwestern Industrial Electronics Co.**, Dept. NE-P2, 2831 Post Oak Rd., Houston 19, Tex.

▲ For more details circle NED-79 D8 on enclosed inquiry slip ▲

BALL WAY CARTRIDGES
eliminate most breakaway friction



Resistance to starting motion or "stixion," encountered in traversing or reciprocating action of heavy parts, is virtually eliminated by the installation of ball way cartridges. They are attached to and made a part of the horizontal sliding table or other machine tool part. Balls recirculate within the unit as they do within the nut of ball screws. Number of cartridges used depends on the length and weight of the moving part and the support needed. Made by **Beaver Precision Products, Inc.**, 653 N. Rochester Rd., Clawson, Mich.

▲ For more details circle NED-80 D8 on enclosed inquiry slip ▲

MECHANICAL CASE STACKER
gently stacks cases 3 to 7 high

Completely mechanical Ezee-Up stacking machine will stack all wooden, metal, or wire cases three to seven high, or will allow them to pass through singly. It can be installed on top of floor in existing production lines in less than 15 sq ft of floor space and requires less than 6-ft headroom. Constructed on heavy channel frame, it has antifriction bearings at load points. Machine is powered by ¾-hp, 220-v three-phase motor and is supported on four adjustable ball feet. Price is $2565. Made by **Lathrop-Paulson Co.**, Dept. N, 2459 W. 48th St., Chicago 32, Ill.

▲ For more details circle NED-81 D8 on enclosed inquiry slip ▲

BIG "G" DOUBLE-ACTION TRANSFER PUMPS

Save Time, Money and Energy!

20 GPM capacity Big "G" pumps fluid on both forward and back strokes.

Ideal for pumping kerosene, fuel oils, motor oils, gasoline, lubricating oils and other fluids from skid tanks and drums. High vacuum, self-priming Big "G" pumps require no foot valve.

All working parts are corrosion resistant. Strong, lightweight die cast body is easy to handle. Vacuum breakers provide complete drainage, prevent siphoning.

There is a Big "G" model best suited to your pumping operation.

JOHN WOOD COMPANY Bennett Pump Division Muskegon, Michigan
IN CANADA: JOHN WOOD COMPANY LIMITED
Toronto • Montreal • Winnipeg • Vancouver

▲ For more details circle NED-82 D8 on enclosed inquiry slip ▲

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QUIK-PLATES
. . . via Graybar

Here's your fastest permanent method of trademarking, naming or affixing directions on any product . . .

Now you can apply positive identification name plates to any product without screws, rivets or escutcheon pins. Brady self-bonding anodized Quik-Plates flush mount on metals, plastics, glass or wood. Available in standard or special designs; in one, two or three colors.

Write GRAYBAR for free samples

Your nearest Graybar office will be glad to give you complete information and prices on Quik-Plates and the famous Brady Wire Markers. Available through Graybar offices and warehouses in over 130 cities from coast to coast. Phone or write today.

GRAYBAR ELECTRIC COMPANY, INC. 81
420 Lexington Ave., New York 17, N. Y.

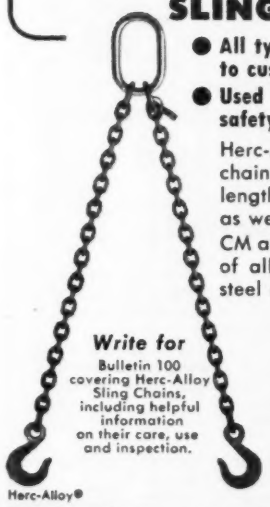
Call Graybar *first* for . . .
IN OVER 130 PRINCIPAL CITIES

Everything Electrical GraybaR ELECTRIC COMPANY

▲ For more details circle NED-83 D8 on enclosed inquiry slip ▲

HERC-ALLOY

SLING CHAINS



- **All types and sizes assembled to customers' specifications.**
- **Used throughout industry where safety is paramount.**

Herc-Alloy is the original alloy chain. It is available in running lengths and special assemblies as well as slings.

CM also produces welded chain of all types including stainless steel and bronze.

Write for
Bulletin 100 covering Herc-Alloy Sling Chains, including helpful information on their care, use and inspection.

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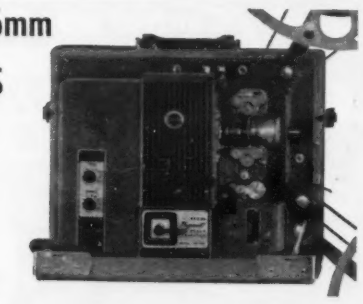
COLUMBUS McKINNON
CHAIN CORPORATION
TONAWANDA, NEW YORK
District Offices: NEW YORK • CHICAGO • CLEVELAND
In Canada: McKINNON COLUMBUS CHAIN LIMITED, ST. CATHARINES, ONTARIO

▲ For more details circle NED-84 D8 on enclosed inquiry slip ▲

SHOW YOUR 16mm SOUND MOVIES on this LOW-COST PROJECTOR



Now, for little more than the cost of a good *silent* projector you can get the new, low-cost Kodak Pageant *Sound* Projector, Model AV-085. Lists for only $439.00.*

Powerful 8-watt amplifier is designed around modern printed circuits that make it more compact, rugged, easy to service. 11-inch oval speaker is housed in a baffled enclosure for good response over the entire frequency range.

Super-40 Shutter and 750- or 1000-watt lamp capacity provide extra screen brilliance. Model AV-085 has new Pageant tungsten carbide pulldown tooth that's virtually wearproof. New 3-wire power cord meets all municipal electrical codes, adapts for ungrounded outlets, too.

You *never* oil this new Pageant (or any other Pageant)! It's lubricated for life at the factory. Setups are fast, easy. Reel arms fold down with belts attached, ready to run. Film path is printed on machine, simple to follow.

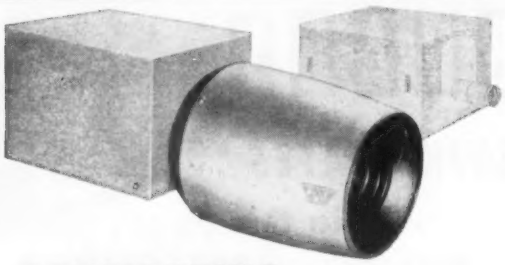
FREE BOOKLET, Bulletin V3-22, gives full details. Write for it.

**List price, subject to change without notice.*

EASTMAN KODAK COMPANY
Rochester 4, N. Y.

Kodak

▲ For more details circle NED-85 D8 on enclosed inquiry slip ▲



CONSIDERING INDUSTRIAL TV?

make one camera do the work of two

A Perkin-Elmer AUTO ZOOM* lens on a standard Vidicon TV camera gives you large-area coverage at one-fifth the cost of a second camera. The AUTO ZOOM variable focal length lens lets you monitor near or distant action from one position . . . with one camera . . . without loss of focus or change of lenses.

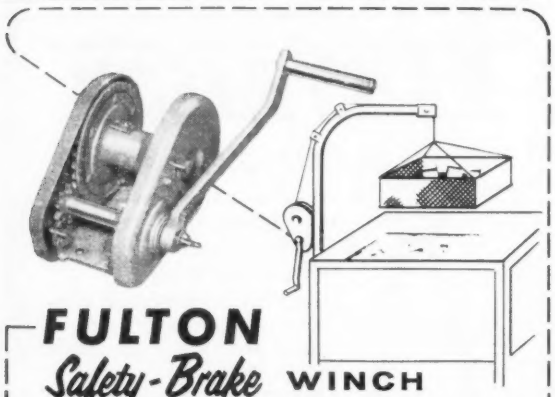
With an AUTO ZOOM lens, your TV camera becomes a roving supervisor that can be here, there, everywhere in the field of vision at the flick of a switch.

Write us at 762 Main Avenue for illustrated brochure and prices.

*T.M.

ENGINEERING AND OPTICAL DIVISION
Perkin-Elmer Corporation
NORWALK, CONNECTICUT

For more details circle NED-109 D8 on enclosed inquiry slip



FULTON Safety-Brake WINCH

This revolutionary new winch gives complete *one-hand* control of the load at all times. Automatic load-actuated brake safely holds the load whenever the winch handle is released, whether raising or lowering.

Precision stamped gears are concealed to protect operator. Oil-impregnated high pressure powdered iron bearings assure long service life. Easily disassembled for servicing. Model 254, gear ratio 3:1, safe working load 395 pounds, maximum capacity 1000 pounds. Drum has 1¾" hub, holds up to 85 feet ¼" cable.

You'll find many cost-saving applications for the Fulton Safety-Brake winch in your plant. It's economically priced. For complete information on this and other models of Fulton pressed steel winches from 200 to 1800 pounds capacity, write for catalog.

the **FULTON** 1912 S. 82nd St. CO. Milwaukee 19, Wis.

For more details circle NED-110 D8 on enclosed inquiry slip

Quality Control plus Cost Control

Wilder MICRO-PROJECTOR with VERTICAL LIGHT BEAM

New model long range measuring stage 1" x 4" reading to .0005".

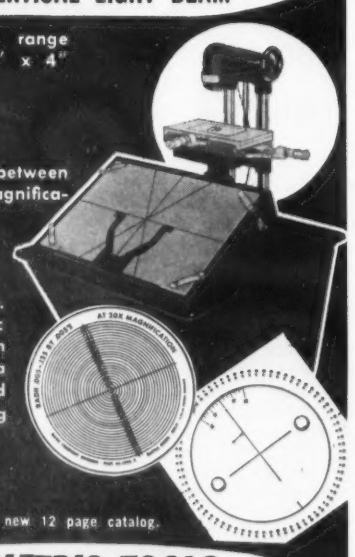
DO IT BETTER

Full set of lenses between 10X and 100X magnifications.

QUICKER

Completely versatile. Available as a basic unit for production inspection or as a completely equipped contour measuring projector.

AT LESS COST

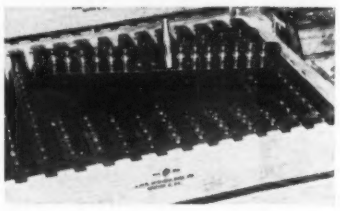


Write for FREE new 12 page catalog.

OPTO-METRIC TOOLS, INC.
137 NE VARICK STREET, NEW YORK 13, N. Y.

For more details circle NED-111 D8 on enclosed inquiry slip

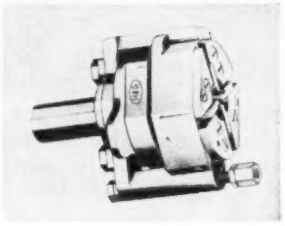
SMALL PARTS CONTAINER
frame holds Bakelite parts holder



Hardwood frame handler for small parts such as pistons, drills, and shafts has steel corner construction which extends slightly above top edge. This adds rigidity, protects corners, and acts as a safety guide when stacking the units. Frame is slotted on both sides to receive molded Bakelite parts holders having 16 holes with either 7/16 or ½-in. diameter and 2 in. deep. Overall size is 26½ x 16 x 4 in. Frame with 15 Bakelite holders costs $19.75, F.O.B. Chicago. Made by **Albert Wesling & Sons, Inc.**, Dept. AB, 2912 W. Lake St., Chicago 12, Ill.

For more details circle NED-112 D8 on enclosed inquiry slip

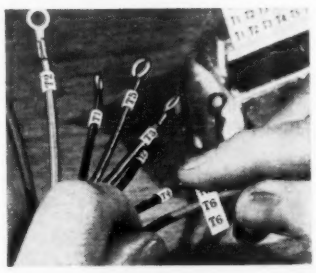
SELF-OPENING DIE HEADS
of lightweight aluminum alloy



Lightweight construction of H&G aluminum die heads permits high machine speed and fast indexing, while minimizing vibration and wear on the turret indexing mechanism. They are made in Size 00 Style DMLN alignment type with 7/16-in. normal capacity. When necessary, ½-in. diameter in fine pitch, short threads can be cut. Other sizes with aluminum alloy construction will be available. Made by **Eastern Machine Screw Corp.**, 29-49 Barclay St., New Haven 6, Conn.

For more details circle NED-113 D8 on enclosed inquiry slip

VINYL WIRE MARKERS
withstand up to 300° F



Only 5 mils thick, vinyl wire markers cling tightly to plastic insulated wires in oily and solvent-laden atmospheres. They will withstand up to 300° F without discoloration or uncurling from wire. The self-sticking markers are made from Brady No. B-330 polyvinyl-chloride tape and are sealed in clear, glossy vinyl overcoating which keeps them bright and abrasion resistant. They are available in ¾ and 1½-in. lengths for identifying wires up to and more than ¼-in. OD, respectively, and are furnished on pocket-size Blue Streak dispenser cards. Made by **W. H. Brady Co.**, Dept. NED, 727 W. Glendale Ave., Milwaukee 9, Wis.

For more details circle NED-114 D8 on enclosed inquiry slip

Eliminate
Costly Flow Failures

Magnatrol
SOLENOID VALVES

Quick Operating *Non Sticking* *Tight Seating*

These three design advantages are your assurance against costly flow failures. Attain dependable, accurate, automatic or remote control of liquids or gases with **Magnatrol Valves.** Installed quickly and easily in connection with . . . flow-meters, thermostats, float and time switches. **Every Magnatrol Valve** is delivered to you—factory tested—guaranteed free from defects in material and workmanship.

Available in normally closed or normally open models. Pressure ranges from zero up to 300 PSI. Voltages to 575.

Catalog containing complete specifications mailed upon request.

Magnatrol
Magnatrol Valve Corp.
Fifth Avenue
Hawthorne 8, New Jersey

For more details circle NED-115 D8 on enclosed inquiry slip

Quick-Releasing Fast-Braking BRAKE MOTOR

The New CLEMATIC F BRAKE MOTOR Simplifies Machine starting and stopping

*SOLENOIDS AND COILS ARE ELIMINATED. BRAKE RELEASED WHEN MOTOR IS STARTED. PERMANENT MAGNET SUPPLIES BRAKING FORCE.

*SCREW DRIVER ADJUSTS BRAKING TORQUE. POLYPHASE DESIGNS, 1800, 1200, 900 RPM. VARIOUS SPEEDS AND DESIGNS AVAILABLE.

Lower First Cost — Minimum Maintenance

Write for data and prices.

THE **CLEVELAND** ELECTRIC MOTOR COMPANY
5213 CHESTER AVENUE • CLEVELAND 3, OHIO

For more details circle NED-116 D8 on enclosed inquiry slip

BAND-IT Standard CLAMPS

Form clamps any diameter (from ½ in. to 100 ft. or over) from continuous roll of BAND-IT Band—in a few seconds for a few cents—without waste!

Using only the

BAND-IT tool

BAND-IT buckles

BAND-IT band

BAND-IT band and buckles available in four widths (⅜", ½", ⅝", ¾") and in four metals—type 201 stainless steel, hi-carbon coated steel, type 316 stainless steel and silicon bronze.

BAND-IT clamps conform to any shape—any size.

Over 1500 AUTHORIZED BAND-IT DISTRIBUTORS throughout the United States and 59 countries of the world.

Send for NEW, FREE 16 page CATALOG

For more details circle NED-117 D8 on enclosed inquiry slip

"Get the drop" on every cleaning job with...

COLD STEAM

NEW IMPROVED

HYDRO-AIR $11.45

PRESSURE WASHER

- BLASTS STUBBORN DIRT!
- HARMLESS TO FINEST FINISH!

CUT COSTS on every cleaning job with HYDRO-AIR! This gun-type unit connects to regular air and hot or cold water supply. Compressed air "breaks" water into minute particles producing a dense penetrating force which blasts heavy dirt or quickly rinses metal sheets and small parts. Extremely economical . . . uses less than 3½ c.f. of air and 3½ gals. of water per minute. Operates with a 1 H.P. compressor. Weighs less than 2 lbs. (Rubber sleeve protects users' hand when hot water is used.) NEW . . . Non-corrosive Plastiprene valve seat assures positive water cut-off regardless of minerals in water.

ORDER THROUGH YOUR SUPPLIER or write direct. (Inquiries invited from industrial cleaning compounders interested in resale.)

D & M PRODUCTS, INC.
24 N. RAYMOND AVE., PASADENA, CALIF.

Hydro-Air is widely used throughout these industries

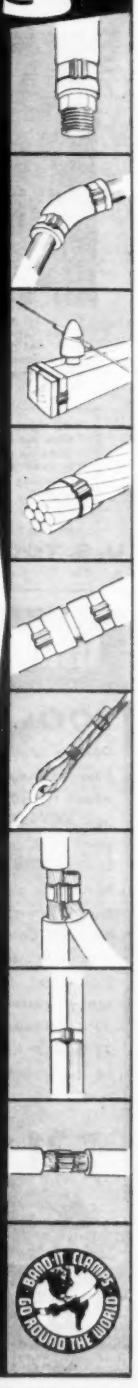
Air Craft, Automotive, Bakeries, Breweries, Cement, Ceramics, Cheese, Construction, Distilling, Electrical, Food Processing, Foundries, Jewelry, Leather, Meat Packing, Machine Shops, Marine, Mining Equipment, Oil & Refinery, Optical, Paper, Pharmaceutical, Public Utilities, Repair Services, Railroad, Rubber, Ship Building, Stone Polishing, Textile, Tobacco, Transportation

For more details circle NED-118 D8 on enclosed inquiry slip

BAND-IT JR. Preformed CLAMPS

18 sizes of BAND-IT Jr. preformed clamps (¼" to 6" diameters) applied in a few seconds for a few cents—excellent for production clamping operations.

Using only the



NO HAMMERING!
NO PUNCHING!
NO CRIMPING!

Air tools for larger production operations available.

Factory shipments of all four metals made to distributors in any quantities within 24 hours of receipt of order.

BAND-IT COMPANY
Incorporated 1937
4761 Dahlia Street, Denver 16, Colo., U.S.A.

BAND-IT CLAMPS GO AROUND THE WORLD

For more details circle NED-119 D8 on enclosed inquiry slip

COMPRESSED AIR FILTER
is rustproof nickel-plated brass

Any possibility of iron contamination or rust is eliminated by nickel-plated brass construction of this 7-in. single tube compressed air filter. Honeycomb tubes minimize gumming and remove moisture, oil, and microscopic dirt particles. Flow rates range from 50 cfm free air to 76 cfm at 100 psi. Tubes are available in range of controlled densities to obtain desired degree of micro-clarity. Made by **Commercial Filters Corp.**, Dept. NE, 2 Main St., Melrose, Mass.

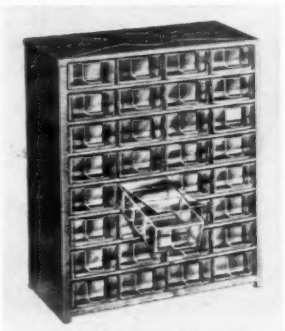
For more details circle NED-120 D8 on enclosed inquiry slip

O-RING KIT
contains 180 O-rings in 1-25 sizes

This Universal Select-O-Ring kit No. 2 contains 180 O-rings from sizes 1 to 25 mounted on pegs that duplicate the shafts on which rings are to be used. These sizes apply to 70 per cent of the industrial equipment on which O-rings are used as sealing members. A small gage is molded into side of kit giving cross-section measurement. Interchange information on leading makes of O-rings is supplied with each kit. Offered for $24.50 by **Bearings, Inc.**, 3638 Euclid Ave., Cleveland 15, Ohio.

For more details circle NED-121 D8 on enclosed inquiry slip

PARTS STORAGE CABINET
has four-compartment drawers



Especially suited for small parts storage, Series J2 Haz-Bin Jr. cabinet is offered with 32, 48, 64, 96, or 128 drawers. Each drawer has four molded-in compartments with rounded bottoms for ease in removing parts. Drawers are made of clear styrene and have safety stops to prevent accidental spilling of contents. Press-on labels identify contents and make possible inventory control. The JL-2 Series cabinets have drawers with plastic lids to protect contents from dust or moisture. Cabinets are welded steel with baked-on silver-gray hammertone finish. Made by **Akro-Mils, Inc.**, Box 989E-PR, Akron 9, Ohio.

For more details circle NED-122 D8 on enclosed inquiry slip

GREEN ENGRAVERS are fast!

- Spindle speeds up to 26,000 rpm to engrave or for machining modern materials
- Fastest possible copy set-up
- Greatest ease and speed of adjustments
- Cutter grinders, rotary tables, master letters, compound slides, name plate blanks and all required accessories

MODEL D2 HEAVY-DUTY 2-DIMENSIONAL

- 575 pounds-rigid, sturdy, precise
- Vertical adjustment of copy table automatic with Pantograph
- Unobstructed on three sides to take large work
- Vertical range over 10 inches
- Micrometer adjustment for depth of cut
- Ball bearing construction throughout — super precision ball bearings in spindle
- Ratios 2 to 1 to infinity — master copy area 26" x 10"

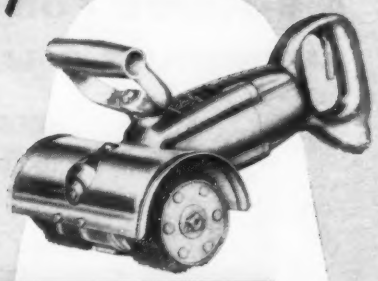
MODEL 106 PORTABLE BENCH MODEL- 2- OR 3-DIMENSIONAL

- 40 pounds of unbeatable speed and accuracy at a reasonable price
- Perfect for all machining applications within its range
- Ball bearing spindle has three speeds up to 14,000 rpm
- 5 positive, accurate pantograph ratios
- One copy carrier (supplied) accepts all master sizes
- Height of pantograph and position of cutter are continuously adjustable
- Work up to 10" by any width
- Taper shank cutters

GREEN INSTRUMENT CO., INC.
375 Putnam Avenue Cambridge, Mass.
Visit us at Booth 1065 at the ASTE Show

For more details circle NED-123 D8 on enclosed inquiry slip

Chip Away



SCALE
RUST
PAINT

AURAND CLEANING TOOLS
ELECTRIC OR PNEUMATIC MODELS

Surfaces are cleaned quickly with AURAND on the job. Hardened steel cutters zip away stubborn accumulations from iron, steel, brick, concrete. Adjustable depth shoe protects surface . . . assures uniform cleaning. No special skill required. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

Write for complete details

AURAND MFG. & EQUIPMENT CO.
1322 Ellis St., Cincinnati 23, Ohio

For more details circle NED-124 D8 on enclosed inquiry slip

NEW WRIGHT Type "C" Pull-A-Ways
THREE SIZES—1½, 3 and 6-Tons

FEATURES
- Lubricated for life
- Hooks are drop-forged
- Special alloy-steel chains
- Chain sheaves of drop-forged alloy steel
- Gear teeth cut to precision limits
- Load brake is dependable and safe
- Weights: 1½-TON, 23½ lbs. 3-TON, 36½ lbs. 6-TON, 63 lbs.

Write to York, Pa., office for complete information

Wright Hoist Division
AMERICAN CHAIN & CABLE
ACCO
York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

For more details circle NED-125 D8 on enclosed inquiry slip

At Last... Positive Protection Against Paint Spray

with the New FLEX-A-PRENE PAINT MASK

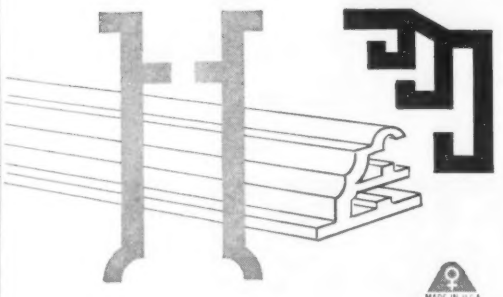
New Efficiency
The sensational new FLEX-A-PRENE Paint Mask keeps out paint pigments and solvents with amazing efficiency, yet it's light (just 1 ounce), comfortable and so easy to talk and breathe through you hardly know you're wearing it.

New Economy
FLEX-A-PRENE's low first cost is only part of the story. Most important savings come from its endurance in service and time saved through less frequent filter replacements. You can expect at least 100 hours of exposure before filter replacement is necessary.

Sample: $1.50 postpaid
(INDUSTRIAL PRICE ONLY)
FLEXO PRODUCTS, INC. Westlake, Ohio

For more details circle NED-126 D8 on enclosed inquiry slip

SEARCHING FOR A SOURCE FOR ALUMINUM SHAPES



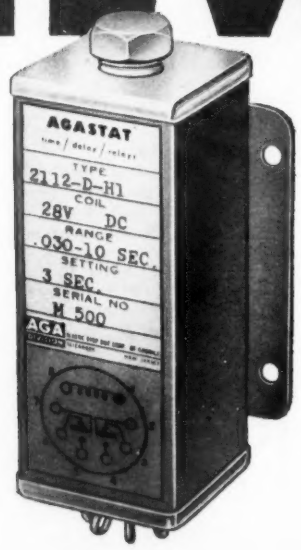
MADE IN U.S.A. TO THE STANDARDS OF AMERICAN INDUSTRY

JUST WRITE

WOLVERINE TUBE
DIVISION OF
CALUMET & HECLA, INC.
17266 Southfield Road
Allen Park, Michigan
Manufacturers of Quality-Controlled Tubing and Extruded Aluminum Shapes

For more details circle NED-127 D8 on enclosed inquiry slip

NEW



MINIATURE AGASTAT®

time delay relay

for . . . missile, aircraft and electronic applications

INSTANTANEOUS RECYCLING . . . reset time—less than .020 seconds
UNAFFECTED BY VOLTAGE VARIATIONS . . . time delay remains constant from 18 to 30 volts DC
ADJUSTABLE . . . time delays from .030 to 120 seconds
CHOICE OF OPERATION . . . for either energizing or de-energizing
SMALL . . . height—4⅝" . . . width—1-13/16" . . . depth—1½"
LIGHT . . . maximum weight—15 ounces
MEETS ENVIRONMENTAL REQUIREMENTS OF MIL-E-5272A

This new AGASTAT time delay relay is an externally adjustable, double-pole, double-throw unit. It incorporates the basic AGASTAT timing principle, proved by a half-century of reliable operation on automatic aids to navigation, in a space-saving miniature unit, built to withstand the rugged environmental conditions of missile and aircraft applications.

For specific information on the new AGASTAT relay for your application, write to Dept. A29-45.

AGA DIVISION — **ELASTIC STOP NUT CORPORATION OF AMERICA**
1027 Newark Avenue, Elizabeth, New Jersey
Pioneers in pneumatic timing

For more details circle NED-128 D8 on enclosed inquiry slip

PORTABLE FOLDING TABLES
low cost units for industrial use

Built to sell for approximately 20 per cent less than standard Sico units, this S Series of portable folding tables is adaptable for use in plant cafeterias, rest areas, or for recreational purposes. Top consists of high pressure laminated plastic bonded to a rigid core material made of fused wood particles. Bench boards are vertical grain fir, faced with a tempered fiberboard. Other construction features are the same as the standard line. Made by **Sico Mfg. Co.**, Dept. NED, 5215 Eden Ave. S., Minneapolis 24, Minn.

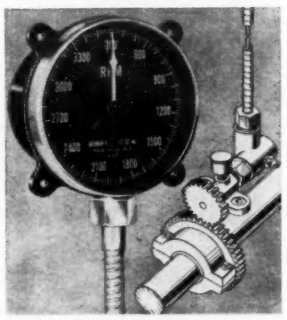
For more details circle NED-129 D8 on enclosed inquiry slip

SMALL EXPANDING MANDRELS
provide arbors from ¼ to ½ in.

Micro-Mite expanding mandrels are designed for precision work with arbor sizes ranging from ¼ to ½ in. Stabilized by deep freezing, and made of hardened and ground tool steel, these miniature arbors afford close tolerances on all mandrel operations. Concentricity is within 0.0005 and 0.0002 in. in Type M and TM, respectively, assuring extreme accuracy of work. Made by **Le Count Tool Works, Inc.**, 38 Cody St., West Hartford 10, Conn.

For more details circle NED-130 D8 on enclosed inquiry slip

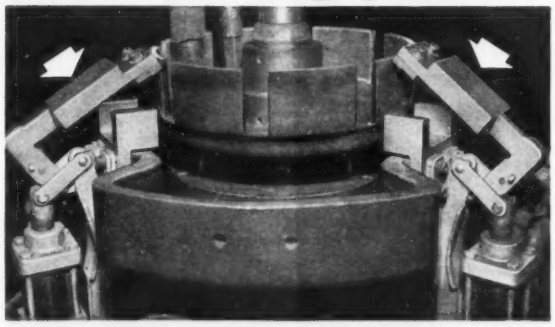
STATIONARY TACHOMETERS
mount permanently on machine



Of the mechanical centrifugal type and equipped with a 4-in. dial, Model J stationary tachometers are designed for permanent mounting on machines. The gear drive consists of a split drive gear that is bolted around a shaft, shaft end bracket with attached pinion gear, ball bearing right-angle section, and flexible cable leading to the tachometer head. Ratings and dials can be furnished to cover speeds of 10 to 6000 rpm, peripheral speeds of 5 to 2400 fpm or 2 to 600 yd per minute, or even corresponding ipm. Special dials can be supplied to show miles, gallons, sheets, time, or numbers. Distributed by **Herman H. Sticht Co.**, Dept. ED, 27 Park Place, New York 7, N. Y.

For more details circle NED-131 D8 on enclosed inquiry slip

BIG--for big jobs



NEVER SEND A BOY—here's the Knu-Vise clamp AO-200.

LAPEER CLAMPS FOR ARC WELDING

In the plant of a midwestern automotive parts manufacturer, air operated Knu-Vise clamps are an important part of a work holding fixture for arc welding. Shown is the operation where center hubs are welded into the high clutch splitter housing for automatic truck transmissions.

No job for a panty-waist, the husky Lapeer clamps have to grab securely—hold rigidly—let go instantly. They are part of a family of more than 150 models of clamps and pliers designed to do a tremendous number of holding jobs. Some are air-operated, others hand operated. All of them do workhorse jobs in industry holding big parts, small parts, unwieldy parts. Write today for more information.

Manufacturers of over 150 models of manually and air-operated clamps and pliers

KNU-VISE PRODUCTS — **LAPEER MANUFACTURING CO.**
3062 DAVISON ROAD
LAPEER, MICHIGAN
WESTERN DIV., ART LEWIS PRODUCTION EQUIP. CO. 419 Magnolia Street, Glendale, California
CANADIAN DIV.: HIGGINSON EQUIP. SALES LTD. 1131 Pettit Road, Burlington, Ontario
See The Lapeer Exhibit Booth No. 833, A.S.T.E. Show, May 1-8

For more details circle NED-132 D8 on enclosed inquiry slip

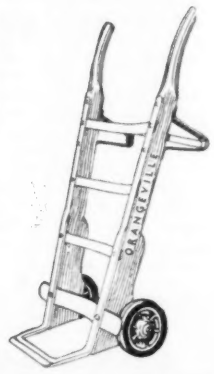
FLOOR TRUCKS

"KEEP LOADS ALIVE"

STANDARD SIZES & TYPES
SPECIAL DESIGNS
VARIOUS TYPE WHEELS:
IRON - RUBBER - PNEUMATIC

Write for catalog

ORANGEVILLE MFG. CO.
Orangeville 12, Pa.
"Since 1879"

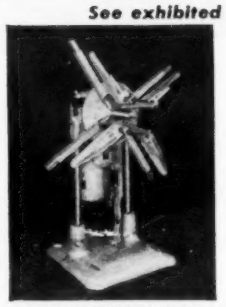


FLOOR TRUCKS ORANGEVILLE

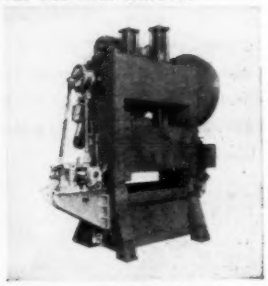
For more details circle NED-133 D8 on enclosed inquiry slip

Visit the U.S. PRODUCTS Booth 1554 at the A.S.T.E. Tool Show

See exhibited for the first time...



The Model ACR-1040 U. S. Motor Driven Centralizing Stock Reel which uses the motor to mechanically expand and contract the cross members supporting the I. D. of the coil.



The Model RF-12-12 Style "B" U. S. Rack and Pinion Roll Feed suitable for material up to 12" in width by up to 3/16" thick and with feeding length adjustable up to a maximum of 12".

The completely redesigned Slide Feed — U. S. Model SF-68 for material up to 6" in width. Feeding length is adjustable up to 8" at one stroke.

ALSO:
The ACC-1-9-C U. S. Multi-Roll Coil Cradle.
The PDS-4½ U. S. Power Driven Straightener.
The PDSC-948 U. S. Combination Power Driven Straightener and Coil Cradle.
The SFC-6-24 U. S. Motor Driven Cabinet-Mounted Slide Feed.
And the ASF-12 U. S. Air Operated Slide Feeds.

Write for Bulletin 85-N

U. S. TOOL COMPANY, INC. AMPERE (East Orange) NEW JERSEY

For more details circle NED-134 D8 on enclosed inquiry slip

IMMEDIATE SHIPMENT

TOOL CARRIER No. 203C-D

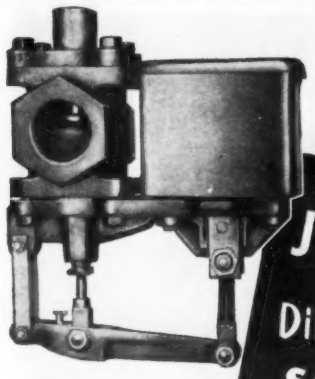
Don't waste valuable time looking everywhere for your tools, jigs, and other items you must have at hand. Keep them handy and safe—move them where you need to. Carrier 18" x 24" x 34" high with 2½" steel or hard rubber casters (specify). Drawer 15" x 23" x 4¾" high. Can be padlocked if desired.

$21.93

PRICES F. O. B. FACTORY OR WAREHOUSE PHILADELPHIA
COMPLETE SHOP BOX AND SHOP EQUIPMENT CATALOG ON REQUEST. PHONE: BAldwin 9-1805

BAY PRODUCTS INC.
3009 N. 16TH ST., PHILADELPHIA 32, PA.

For more details circle NED-135 D8 on enclosed inquiry slip



OUTSTANDING FOR STEAM SERVICE

JOHNSON Direct Operated SOLENOID VALVES

Stainless steel valve and seat. Sizes: ½" to 3". Write for facts.

Job after job, these Johnson Direct Acting Solenoid Valves are proving an ideal answer for service on steam lines. Their design removes the solenoid proper from the heat of the line, permits a leverage system with ample power to open against differential pressures up to 150 lbs. There are no pilot valves or auxiliary pistons, and construction is really heavy duty throughout. You will find their inherent simplicity and instant response will solve a lot of operating problems like no other valve can.

THE JOHNSON CORPORATION
812 Wood St., Three Rivers, Mich.

For more details circle NED-136 D8 on enclosed inquiry slip

ALL NEW!

Veeder-Root Panel-Mounted High Speed Electrical Counters

...with Electric Resetting in 1/10th of a second

New Series 1591 Electrical Counters fill the gap between standard and electronic counters for industrial, data processing, or laboratory and scientific uses. They're designed for accuracy and long life at very high speeds (rated at 3000 counts per minute, with extended test-runs up to 6000 cpm).

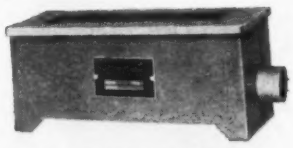
And they have the unmatched convenience of *instant push-button resetting*, either mechanically right on the machine . . . or electrically from a distance. Panel-groups of these counters can be placed right in your office . . . *and one button can reset an entire panel.* Counters feature large figures, small size, low-wattage coils for continuous duty and other V-R vantage points on which patents are pending. Write:

Added Evidence that Everyone Can Count on

VEEDER-ROOT INCORPORATED
HARTFORD 2, CONNECTICUT

For more details circle NED-137 D8 on enclosed inquiry slip

Do you Dip or pour Solder . . . or Dispense a drop at a time?



Sta-Warm has exactly the size and style of solder melting and dispensing equipment you need.

Do you dip printed circuits? Close temperature control of solder for this critical operation is available with Sta-Warm dipping tanks of just the size and shape to fit your laminate handling method.

And every Sta-Warm solder melter holds to high standards of quality and process control.

Inquire today, outlining your solder application. No obligation.

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
Subsidiary of ABRASIVE & METAL PRODUCTS CO.

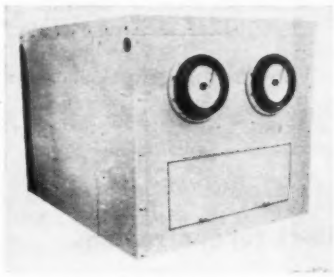
For more details circle NED-138 D8 on enclosed inquiry slip

POWER DRAIN CLEANER cleans 250 ft of 1½ to 6-in. pipe

Easily operated by one man, this Dualectric Power Snake will clean out waste lines and remove obstructions at a distance up to 250 ft. It can be used with Right Wind coiled springs in 50, 75, or 100-ft lengths in 1½ to 3-in. waste lines, or with Marco Sewerods in multiples of standard 5-ft sections in 3 to 6-in. sewer lines. Special heads are available for removal of average stoppages; for cleaning out grease, soap, rust, rags, and other foreign articles; and for root pulling or retrieving of articles. Machine is mounted on 8-in. rubber tired wheels, is powered by a G-E ⅓-hp 115-v ac motor, and is easily wheeled to the job. Made by **Marco Products Co.**, Dept. MP-1-16, 3416 Vineyard Ave., Los Angeles 16, Calif.

For more details circle NED-139 D8 on enclosed inquiry slip

MULTIARC WELDING SYSTEM with 750 or 1500-amp dc power sources, supplies up to 40 arcs



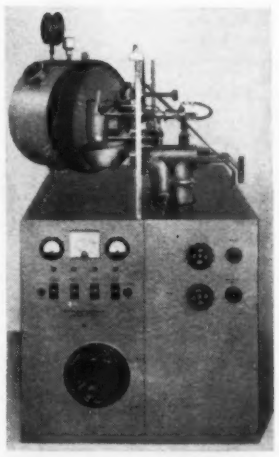
This multiarc welding system will supply a wide range of arcs from a single power source through series resistance grids for arc, tack, stud, and inert arc welding, as well as arc-air gouging. The 1500-amp model 15000 CP accommodates from 15 to 40 arcs, whereas 750-amp model supplies about half the number, depending upon application. Operator can adjust heat from distant work position by locating the series grid near the work.

Compact unit has silicon rectifier and 16-gage steel, weatherproof housing. It is thermally protected against overload and operates in 40° C ambient air or less. Model 15000 CP requires 460 or 600 v, three-phase, 60 cycles with 134-kva primary requirement. It has 80-v dc open circuit voltage and 75.5-v dc full load.

Grid styles available are a portable package with handle-operated toggle switches, a rack type containing six individual operator grids, and relatively fixed output type drawers, used mostly for tacking service. Welding amperage can be controlled by grids in 5-amp steps. Made by **A. O. Smith Corp.**, Dept. NED, Box 584, Milwaukee 1, Wis.

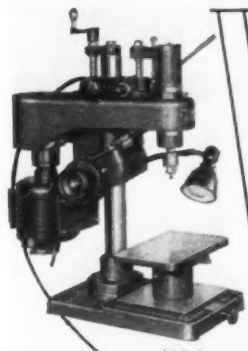
For more details circle NED-140 D8 on enclosed inquiry slip

LOW COST VACUUM FURNACE for laboratory melting and heat treating



Compact packaged complete vacuum furnace with capacity 2 to 8 lbs. molten steel. Temperatures above 2000° C. Pressures down to 10^{-5} mm Hg. Used for melting, purifying, alloying, casting, as well as sintering, brazing, annealing, degassing, hardening and heat treating. Over 100 now in use for small parts production and development of materials with superior characteristics. **NRC Equipment Corp.**, Dept. 29N, Charlemont Street, Newton 61, Mass. Write for Bulletin 2904-B. *Advt.*

For more details circle NED-141 D8 on enclosed inquiry slip



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"for the finest work you do"

With capacity of .004" to 5/16" in all drillable materials, and spindle speeds from 840 to 9300 R.P.M. infinitely variable in two speed ranges . . . *this* is the machine which the precision industries rely upon to handle the "heart-break jobs."

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THE HAMILTON TOOL COMPANY
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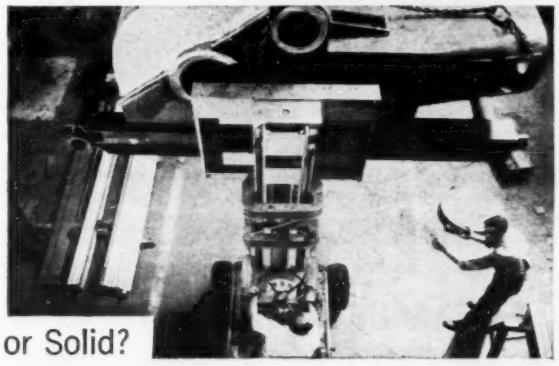
IT'S A Hamilton Tool
USE IT WITH CONFIDENCE

2489

For more details circle NED-142 D8 on enclosed inquiry slip

B.F.Goodrich

Pneumatic?



or Solid?

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Problem: There are many variables in industrial tire types, sizes, tread compounds and tread designs. Do you know which tire is right for you?

Solution: Without cost your B.F.Goodrich Tire and Wheel Analysis man will study your equipment, loads, hauling surfaces and other special problems. He'll recommend the right tires for you to use—recommendations that are unbiased because B.F.Goodrich makes a *complete* line of industrial tires.

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I would like further information on your FREE TW Analysis.
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To meet your production or toolroom grinding, milling, or finishing operation, look to PRECISE as one source for your HIGH RPM rotary cutting tool requirements. PRECISE tools available in H. S. Steel, Tantung, Carbide, Abrasives, and Diamond, in all sizes and shapes — highest quality guaranteed for faster, more efficient metal removal and improved finishes. Send for new 48-page "One Source" Tool Manual presenting the lastest developments in rotary tools.

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Branch Plant: Precise, G.m.b.H., Duesseldorf, Germany

See us in Booth 1155—ASTE Show

For more details circle NED-146 D8 on enclosed inquiry slip

ROBINTRONIC

AUTOMATIC LEVEL INDICATOR FOR BULK MATERIALS HANDLING

Single Unit

One probe and complete self-contained electronic control unit.

Dual Unit

Two independently operating probes and single control unit.

This accurate, easily installed electronic unit actuates an audible or visible signal to warn operators when materials vary from the pre-set level. When equipped with a power relay, it can also control the flow of materials by stopping and starting motors and other equipment.

RoBINtronic requires neither adjustment nor lubrication. It is engineered for heavy industrial service and functions with materials of all densities from rock and coal to grain and sand.

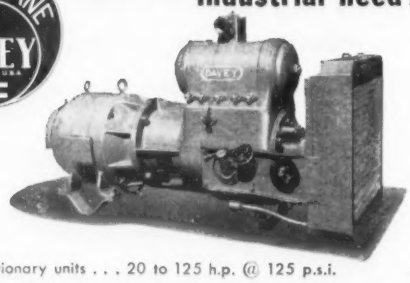
Send for free Bulletin 166, Department R, Hewitt-Robins, Stamford, Connecticut.

HEWITT-ROBINS

For more details circle NED-147 D8 on enclosed inquiry slip

HYDROVANE DAVEY

NEW... meets every industrial need!



Stationary units . . . 20 to 125 h.p. @ 125 p.s.i.

- Silent . . . vibrationless . . . compact
- Complete line . . . 2 to 125 h.p. . . . 8 to 500 c.f.m. @ 125 p.s.i.
- No complicated engineering . . . no compressor room . . . no foundation
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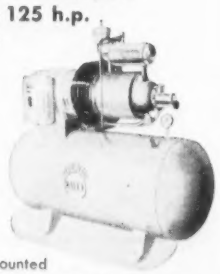
- Air cooled or water cooled



Tank mounted 2 to 5 h.p. @ 100-200 p.s.i.

Write for Bulletin M-132

INDUSTRIAL DIVISION

DAVEY pioneers of air-cooled air

DAVEY COMPRESSOR CO.

Kent, Ohio

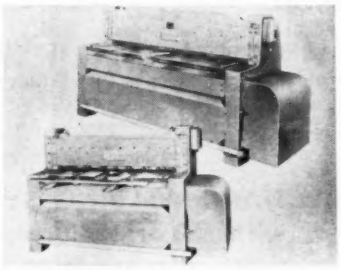
For more details circle NED-148 D8 on enclosed inquiry slip

ADJUSTABLE WRENCH
automatically holds adjustment

Once the Clik-Stop Golden Knurl of this automatic wrench is adjusted, its jaw opening is held fast and cannot change position. The 4, 6, 8, 10, and 12-in. sizes are forged from alloy steel and chrome plated. Absence of a corner lip on the movable jaw in most sizes allows a square nut to fit flat to the inside jaw surface. Wrench is adaptable to metric and Whitworth type nuts. Made by **Proto Tool Co.**, Dept. JPN, 2209 Santa Fe Ave., Los Angeles 54, Calif.

For more details circle NED-149 D8 on enclosed inquiry slip

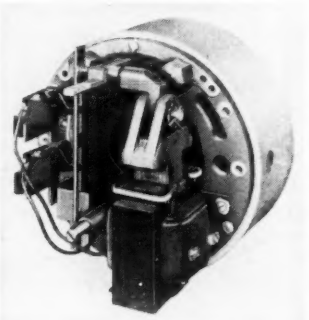
POWER SQUARING SHEARS
4 and 6-ft models cut 10-gage steel



Designed for continuous operation in industrial production, 10-gage, precision, power, squaring shears are available in 4 and 6-ft capacities. They feature oversize castings, heavy fixed-beam channel hold-down, and Pexto safety square pin clutch. Operating at up to 62 strokes per minute, shear uses replaceable, four-edge blades. Machines have Timken bearings, built-in blade clearance, precision gaging, and full-length bed T-slot. Made by **Peck, Stow & Wilcox Co.**, West Street, Southington, Conn.

For more details circle NED-150 D8 on enclosed inquiry slip

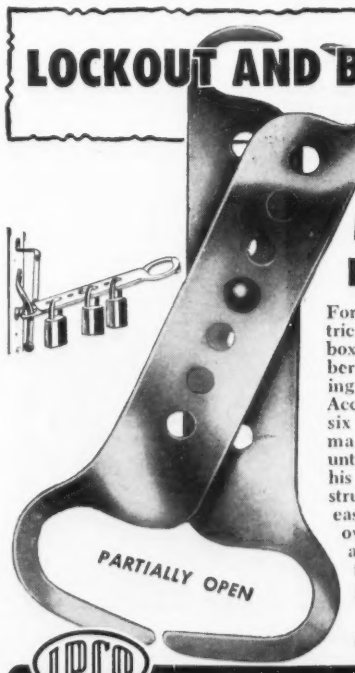
MOTOR BRAKE
in 10 to 105 lb-ft torque ratings



This direct-current HT70 Series motor brake is offered in torque ratings from 10 to 105 lb-ft, with standard and dust-tight waterproof enclosures. It can be mounted on the floor or on motors, utilizing a stub shaft, a standard double shaft extension, or it can be modified for through-shaft applications. This model has unitized construction, single solenoid, single-point adjustment for lining wear, and manual release with automatic reset. All maintenance can be performed with a screwdriver. Made by **Stearns Electric Corp.**, Dept. A, 120 N. Broadway, Milwaukee 2, Wis.

For more details circle NED-151 D8 on enclosed inquiry slip

LOCKOUT AND BE SURE!



SAFETY MULTIPLE LOCKOUT

For locking out electric switches and fuse boxes where a number of men are working on the same line. Accommodates up to six padlocks. Switch may not be thrown until last man removes his lock. Sturdily constructed yet light and easy to handle. Length overall 8¼". Provides a sound procedure for an everyday problem.

WRITE FOR BULLETIN NO. 95

IPCO Safety Equipment for all Industries

INDUSTRIAL PRODUCTS COMPANY

2807 N. Fourth Street • Philadelphia 33, Pa.

For more details circle NED-152 D8 on enclosed inquiry slip

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DIE-CAST ROUND-HEAD THUMB NUTS & SCREWS with GRC's exclusive WIDE GRIP feature

6 standard diameters: ⅛" to 1⅛"; standard thread sizes No. 4 through 7/16"; both open-end and closed-end thumb nuts; thumb-screws with and without shoulders.

Generous width, deep fluted edges, assure firm, comfortable grip.

Mass produced in rustproof zinc alloy at low cost, with eye appeal to help sell your product.

As in all other GRC quality fasteners—wing nuts, cap nuts, wing screws—threads are clean and accurate.

AT THE DESIGN ENGINEERING SHOW—BOOTH 850

Write today for prices and bulletin, or ask for quote on special needs.

GRIES REPRODUCER CORP.

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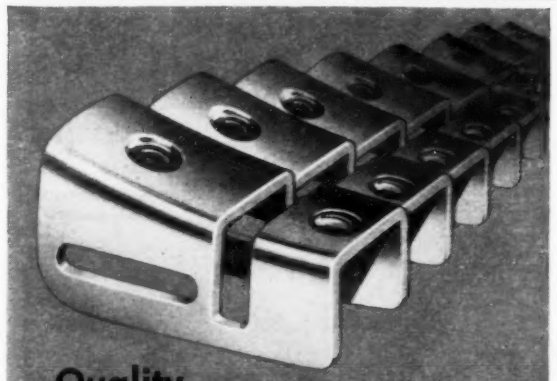
For more details circle NED-153 D8 on enclosed inquiry slip



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PATTON-MacGUYER COMPANY

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For more details circle NED-154 D8 on enclosed inquiry slip

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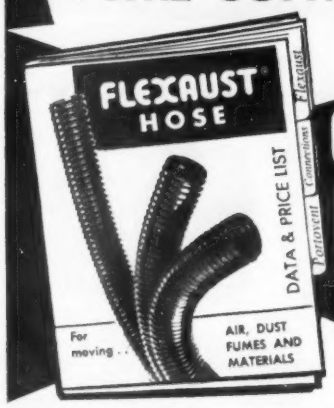
NAILS, RIVETS, SCREWS AND OTHER COLD-HEADED FASTENERS AND SPECIALTIES

For more details circle NED-155 D8 on enclosed inquiry slip

FOR AIR-DUST OR FUME CONTROL...



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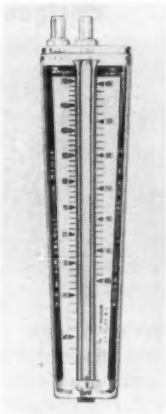
DEPT. NED-4 100 PARK AVE., NEW YORK 17, N. Y.
DISTRIBUTORS IN ALL PRINCIPAL CITIES

For more details circle NED-156 D8 on enclosed inquiry slip

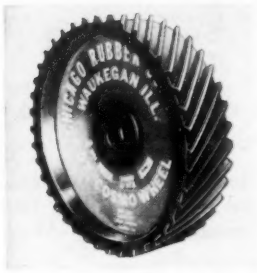
AIR VELOCITY METER checks static pressure



Direct readings for furnace draft, pressure drop across air filters, and duct, supply grille, and return grille air velocities are obtained with the No. 460 air meter. Based on the principle of the variable area flowmeter, it has only one moving part. Air velocity is registered in 260 to 1200 fpm and 1000 to 4000 fpm ranges. Static pressure ranges are 0.005 to 0.09 in. and 0.05 to 1.0 in. water. Several accessories are included. Made by **F. W. Dwyer Mfg. Co.**, Dept. NDC, Box 373, Michigan City, Ind.

For more details circle NED-159 D8 on enclosed inquiry slip

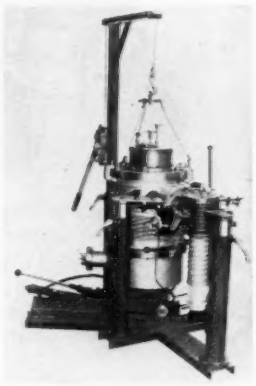
ABRASIVE BELT CONTACT WHEEL has self-aligning rubber arbor hub



Capable of self-alignment by centrifugal force, this R-57 rubber contact wheel for abrasive belt finishing operates without vibration. It has a molded rubber hub, and speed automatically centers the wheel as it gains momentum. Wheels are available in 6 to 16-in. diameters and 1 to 4-in. wide serrated faces. Made by **Chicago Rubber Co.**, Dept. 157, 651 Market St., Waukegan, Ill.

For more details circle NED-160 D8 on enclosed inquiry slip

LABORATORY VACUUM FURNACE has up to 25-lb steel capacity



Temperatures in excess of 2000° C are attained by the F-9 laboratory vacuum furnace which employs either resistance or induction heating. It can be used for vacuum or inert gas melting and heat treating of metals, including vacuum casting, annealing, sintering, and crystal growing. Furnace has capacity of 10 lb of steel or volume equivalent if crucible is tilt-poured, and 25 lb if bottom-plug pouring is used. Neither ceramic crucible, nor pouring spout are cemented in place, facilitating easy replacement. Pumping system can reach pressures of 1×10^{-4} mm Hg in 18 min and ultimate pressure of 3×10^{-5} mm Hg. Made by **New York Air Brake Co.**, Kinney Mfg. Div., 3529 Washington St., Boston 30, Mass.

For more details circle NED-161 D8 on enclosed inquiry slip

PORTELVATOR®

The Handy HAMILTON Portable, Elevating Table

5607

NEW DEVELOPMENTS PROVIDE EASY MOVEMENT

MORE SERVICE for LESS MONEY than ANY Other Unit of Equipment

Four-Wheel and Six-Wheel Models

of SHEETS PLATES BARS TUBES PIPES TOOLS DIES FIXTURES ALL COMPACT HEAVY LOADS

4 point support 3 table surfaces

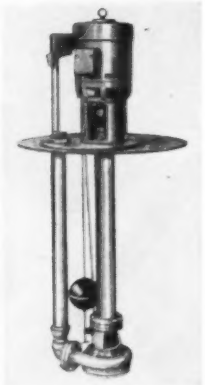
NEW, FREE LITERATURE TELLS ALL! Ask for Bulletin P-5607. Address The Hamilton Tool Company, 901 Hanover Street, Hamilton, Ohio.

UNOBSTRUCTED PERIMETER • WORK FROM ANY SIDE

IT'S A Hamilton Tool! USE IT WITH CONFIDENCE

For more details circle NED-162 D8 on enclosed inquiry slip

Goulds Fig. 3171



New, heavy-duty vertical sump or process pumps

Custom-built advantages at standard-part prices

Now you can get vertical centrifugal sump or process pumps tailored to your special needs. Get them as fast as you can get a "stock" pump—and at no extra cost.

These new Goulds pumps—assembled from standardized modular parts—are available in single or duplex units for wet pit or dry pit use.

Wet and dry pit types for all pit depths from 2 to 20 ft. by 6-inch increments (no special length shaft and pipe columns). Changes to meet new pit depths are easy, economical.

All units available in vaporproof construction. The range of pump and motor combinations provides for capacities up to 1030 GPM, or heads to 290 ft. Write for Bulletin 726.2.

GOULDS PUMPS FOR INDUSTRY

Main Office and Works
GOULDS PUMPS, INC.
Seneca Falls, New York
Branches and Representatives in all principal cities

For more details circle NED-157 D8 on enclosed inquiry slip

a sensitive, short or long run tool especially developed for machining small parts to close tolerances

THE NEW BURGMASTER®

BENCH MODEL

$550.00 F.O.B. GARDENA

including motor and controls less tooling shown

Individual speeds on each spindle in two speed ranges

12-SPEED, 6-SPINDLE, POWER-INDEXING BENCH MODEL TURRET DRILL

Drilling, tapping, reaming, counterboring, countersinking, spot facing and numerous other second operations can be accomplished—with one operator—in one location—quickly and simply. The Burgmaster principle is basic. Each tool change is brought to the work. The need to carry or shove, then realign the work manually is eliminated. Time loss is cut, accuracy is increased, fixture costs are reduced.

SPECIFICATIONS

Capacity, 3/16" in steel, 1/4" in aluminum; overall dimensions, height, 31-1/2", width, 17", depth, 20"; motor, 1/4 h.p.; chuck to base clearance, 12"; maximum spindle travel, 2-7/8"; center of spindle to column clearance, 5-3/8"; geared head permits each spindle to operate at its own predetermined speed from 350 to 6200 r.p.m.

BURGMASTER BENCH MODEL 6 SPINDLE AUTO INDEXING TURRET DRILL & TAP MACHINE

call your distributor

Phone, wire or write Dept. NE-4
BURGMASTER CORPORATION
Small Tool Div., Burg Tool Manufacturing Co., Inc.
13226 S. Figueroa St., Box 311, Gardena, Calif.
Phone: FAculty 1-3510

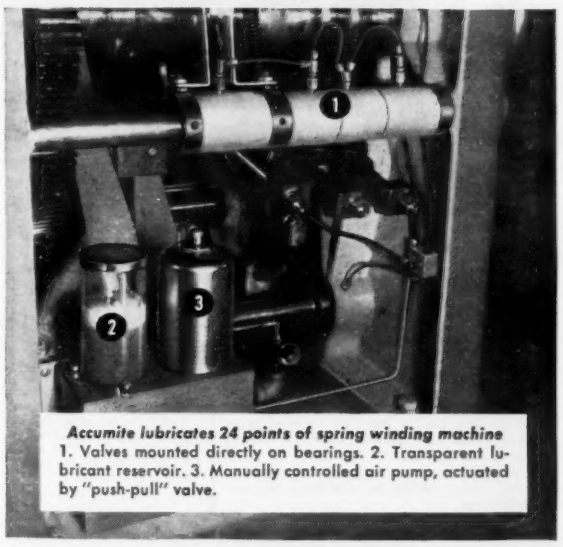
CHICAGO 25
Burgmaster Corp., 5329 Lincoln Ave.
Phone: LOngbeach 1-1178

RIDGEWOOD, N. J.
Burgmaster Corp., 86 N. Maple Ave.
Phone: GIlbert 4-3002

Cuts Costs / Saves Space / Increases Production / World's largest manufacturer of turret drills

For more details circle NED-158 D8 on enclosed inquiry slip

NOW! Any machine can have the advantages of Centralized Lubrication ...at low cost!



Accumite lubricates 24 points of spring winding machine 1. Valves mounted directly on bearings. 2. Transparent lubricant reservoir. 3. Manually controlled air pump, actuated by "push-pull" valve.

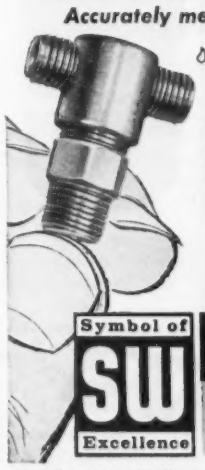
ALEMITE

"Miniature" Accumite System

Miniature size—all the quality of higher-priced systems! Alemite's all-new miniature Accumite system is especially designed for light, multiple-bearing machines that have limited installation space. Economical because of its small size and simple installation, it overcomes cost limitations in most plants. Typical applications are: packaging, canning, labeling and textile machines . . . machine tools . . . tractor trailers, lift trucks and farm implements.

Accumite . . . all the advantages of measured lubrication, plus midget size:

Accurately meters these shots of oil or grease



.003 cu. in. .006 cu. in. .009 cu. in.

(1) Meters exact amounts of refinery-clean lubricants to all bearings whenever system is operated. (2) Eliminates shutdown time for lubrication. (3) Seals lubricant against dirt, grit and water. (4) Prevents work spoilage and costly bearing repairs.

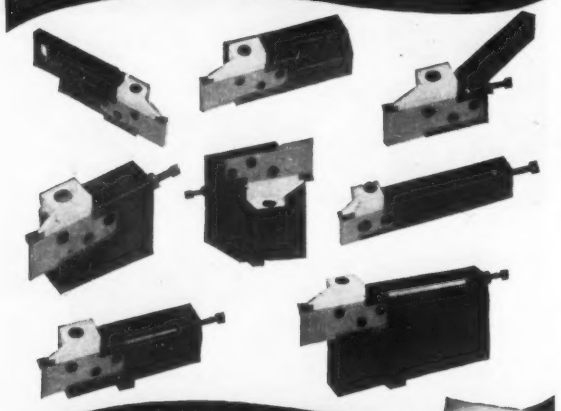
Send for Free Accumite Booklet!
Alemite, Dept. HH-48
1850 Diversey Parkway, Chicago 14, Illinois

Symbol of SW Excellence

ALEMITE DIVISION STEWART-WARNER CORPORATION

For more details circle NED-163 D8 on enclosed inquiry slip

NOW...A CUT-OFF TOOL for EVERY Application . . .



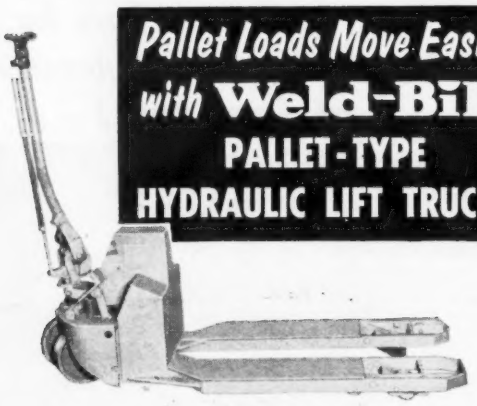
The complete line of P.D.Q. (Portage Double Quick) Manchester cut-off tools includes tooling for all makes of Turret Lathes, Engine Lathes, Production Lathes, Automatics and Cutting-Off Machines.

This wide selection of carbide tools, designed specifically for each type of machine, offers real speed and economy in parting and grooving problems. Write for the illustrated catalog covering all the available standard types. Specials available on request.

PORTAGE Double-Quick, Inc.
1043 SWEITZER AVENUE • AKRON 11, OHIO

For more details circle NED-164 D8 on enclosed inquiry slip

Pallet Loads Move Easier with Weld-Bilt PALLET-TYPE HYDRAULIC LIFT TRUCKS



Easy-entry booster rollers, Multi-Stroke fast-lift operation, accelerator-type lowering pedal, Anti-kick-back Safety Handle, front wheel equalizer — these and other Weld-Bilt features promise long labor-saving service on your single or double pallet-moving operations. Check all the advantages — write for bulletin No. LT857-R.
For information on our complete line write us or our nearby representative.

"Weld-Bilt" PRODUCTS

Hydraulic Lift Tables and Trucks — Portable Elevators—Automatic Conveyor-lift Elevators — Conveyors — Skids — Special Equipment.

WEST BEND EQUIPMENT CORPORATION
MATERIALS HANDLING ENGINEERS
311 WATER STREET • WEST BEND, WISCONSIN

For more details circle NED-165 D8 on enclosed inquiry slip

The accent today is on HIGHER TEMPERATURES

Houghton Hi-Temp oils provide dependable lubrication for service under extreme heat conditions, even **up to 1000°.**

The line includes new synthetic lubricants unheard of ten years ago. Get the whole story by writing E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.

HI-TEMP OILS

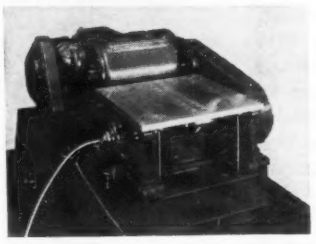
. . . Products of

E. F. HOUGHTON & CO.
PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO

Ready to give you on-the-job service . . .

For more details circle NED-166 D8 on enclosed inquiry slip

VIBRATION TESTERS
designed to test specific equipment

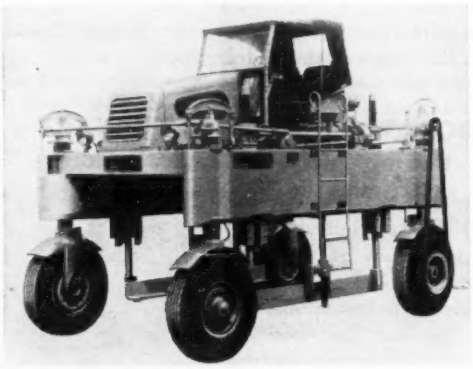


Apparatus weighing up to 150 lb, subject to vibration failure, can be tested on machines designed to create vibrations of known sine wave characteristics. Electronic instruments, aircraft and tank radios, and accessories, dynamotors, contactors, harnesses, magnetos, pressure and speed indicators, and compasses are among equipment that can be tested. Models for horizontal motion (shown), vertical motion, and circular translatory motion testing are available. Each machine has full amplitude, frequency, and wave form control. Frequencies as high as 6000 cpm and double amplitudes of 0 to 0.500 in. are obtainable. Made by **Walter A. Johnson Associates**, Dept. V, 318 Norton Ave., Endicott, N. Y.

For more details circle NED-167 D8 on enclosed inquiry slip

MATERIAL CARRIERS
three models with capacities up to 40,000 lb have Ford V-8 engines

Efficient handling of loads of bars, beams, rails, slabs, lumber, and long concrete products is provided by line of three Towmotor-Gerlinger material carriers. Mod-



el 40-R and heavy duty Model 40-S are of the rigid shoe type with capacity to lift and transport loads weighing up to 40,000 lb. Both are powered by 192-hp Ford V-8 industrial engines, with diesel power being optional. They will travel, fully loaded, over rough or uneven surfaces as well as on smooth roadways.

Model 30-S with a 30,000-lb load carrying capacity has hydraulic swinging shoes which can be operated in and out at any lifting height to facilitate handling odd-size or hard-to-align loads. All machines have synchromesh transmissions with five speeds forward and five reverse. They also have four-wheel hydraulic brakes. Made by **Gerlinger Carrier Co.**, Dept. NR, Dallas, Oreg.

For more details circle NED-168 D8 on enclosed inquiry slip

ARMSTRONG WRENCHES

Types and Sizes for Every Industrial Use

ARMSTRONG Wrenches have engineered designs, a wide safety factor of extra strength, accurately machined openings that go over screw heads or nuts easily, grip firmly—will not slip, round corners or mar faces.

Drop forged from special high tensile carbon and alloy steels, heat treated to an exactly predetermined balance of hardness, toughness and tensile strength. ARMSTRONG Wrenches will not "chew out," will stand up through years of service, making work faster, easier and safer.

In sizes and types, ARMSTRONG Wrenches comprise the most complete line of industrial wrenches manufactured. Specify "ARMSTRONG" when ordering wrenches.

Write for Catalog

ARMSTRONG BROS. TOOL CO.
5245 W. ARMSTRONG AVE. • CHICAGO 46, ILL.
See us at our BOOTH No. 308 ASTE SHOW

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NOW a SELF-ALIGNING Contact Wheel

NEW R-57 Eliminates VIBRATION RUNS SMOOTHER

Automatically aligns. Rubber Arbor Hole Hub draws up tightly on spindle even when worn spindles are used . . . Eliminates Vibration . . . Low Operating Noise . . . Maximum efficiency.

ADDED R-57 FEATURES:
Lightweight, maximum safety. Plain or serrated faces in all durometers, for every grinding and finishing operation.
Write today for information and prices.

CHICAGO RUBBER COMPANY, INC.
653 Market Street • Waukegan, Illinois

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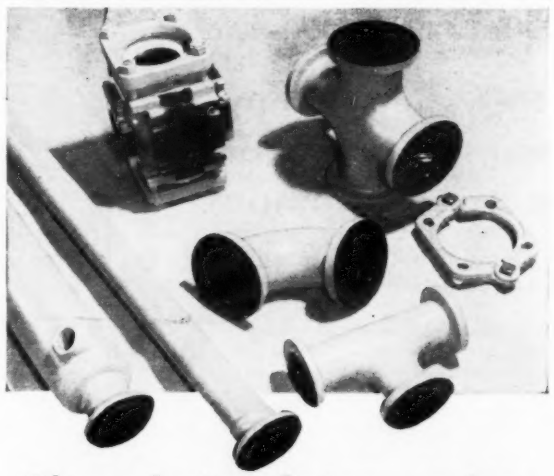


Glassed pipe, fittings, valves *for corrosive service*

- Complete line inert to the action of all acids except hydrofluoric, most alkalies at moderate temperatures. Pfaudler glass keeps contaminating metals out of process, away from your product.
- Practically no maintenance, repair, or replacement costs over period of years.
- All parts strong and durable, withstand internal pressures up to 150 psi. Wide variety of sizes and types fit into your process easily.

For Pfaudler Bulletin 886, write Dept. NED-48

THE PFAUDLER CO.
a division of PFAUDLER PERMUTIT INC., Rochester 3, New York

For more details circle NED-171 D8 on enclosed inquiry slip

NEW MANUAL

Where are filters used?

Why are filters used?

How do filters save money?

Here's the first comprehensive filtration guide ever edited specifically for designers. Purolator's new "Filtration Manual for Designers" spells out application considerations in detail, including degree of filtration, flow rate, contamination to be removed, viscosity of fluid, economics of filtration, plus a complete glossary of terms. Printing of this manual is limited, so send today. Include 25¢ for postage and handling. Address Purolator Products, Inc., Rahway, N. J., Dept. D3-29.

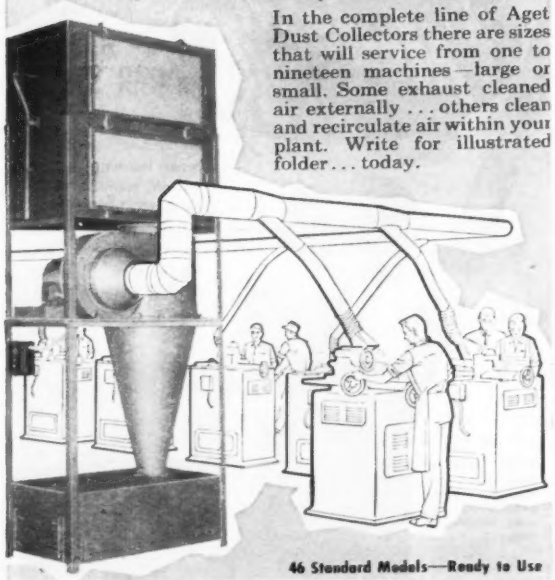
PUROLATOR
"FIRST IN THE FIELD OF FILTERING"

For more details circle NED-172 D8 on enclosed inquiry slip

just ONE DUSTKOP STOPS DUST

heavy duty unit services up to 19 MACHINES

In the complete line of Aget Dust Collectors there are sizes that will service from one to nineteen machines—large or small. Some exhaust cleaned air externally . . . others clean and recirculate air within your plant. Write for illustrated folder . . . today.



46 Standard Models—Ready to Use

AGET manufacturing company
1396 Church Street • Adrian, Michigan

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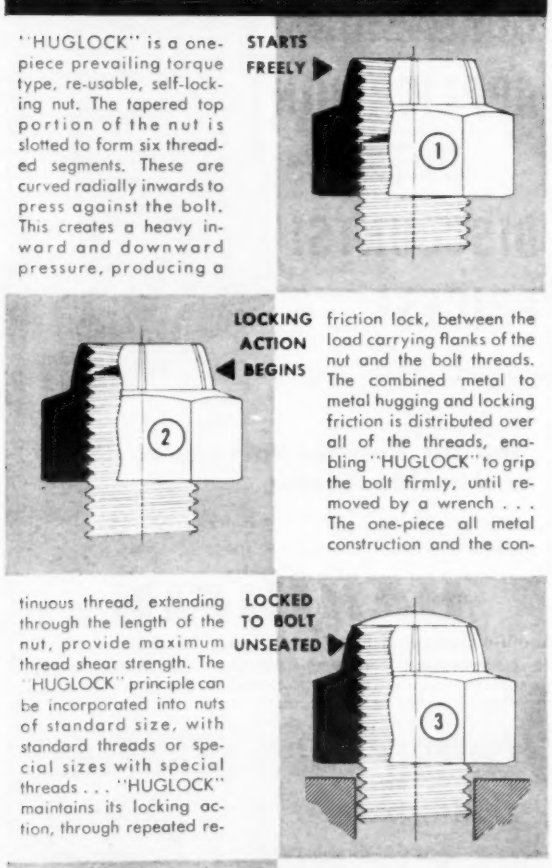
HUGLOCK self-locking nuts with prevailing torque . . . . . .

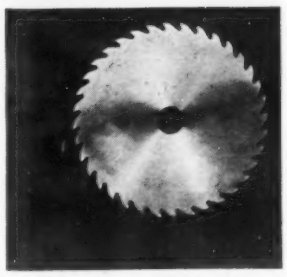
"HUGLOCK" is a one-piece prevailing torque type, re-usable, self-locking nut. The tapered top portion of the nut is slotted to form six threaded segments. These are curved radially inwards to press against the bolt. This creates a heavy inward and downward pressure, producing a friction lock, between the load carrying flanks of the nut and the bolt threads. The combined metal to metal hugging and locking friction is distributed over all of the threads, enabling "HUGLOCK" to grip the bolt firmly, until removed by a wrench . . . The one-piece all metal construction and the continuous thread, extending through the length of the nut, provide maximum thread shear strength. The "HUGLOCK" principle can be incorporated into nuts of standard size, with standard threads or special sizes with special threads . . . "HUGLOCK" maintains its locking action, through repeated removals or re-use on the same bolt or a similar bolt of commercial thread tolerance. It locks to the bolt, whether the nut is seated or unseated. "HUGLOCK" eliminates axial thread play which tends to make a nut creep from its seat and work loose, under severe vibration or shock . . . All lock washers, cotter pins, key plates and other locking devices can be eliminated . . . The "HUGLOCK" section of our catalog contains 24 pages. It includes complete information, specifications, engineering data, prices; will be furnished on request.



NATIONAL MACHINE PRODUCTS
Manufacturer of Standard and Special *12 Pointer and Hexagon Nuts . . . "Huglock" and "Marsden" locknuts.
44225 Utica Rd., UTICA, Michigan
NMP/COMPANY

▲ For more details circle NED-174 D8 on enclosed inquiry slip ▲

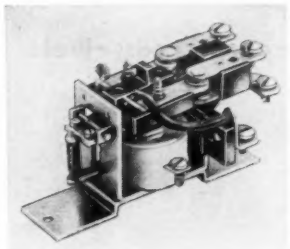
PLATED SAW BLADE
chrome reduces friction, heating



Chrome plating of Diss-Chrome circular saw blade minimizes friction and heating, resists rust, and assures edge-holding quality to the teeth. Each saw is individually hardened and tempered. Blade is available in up to 12-in. diameters. Cut-off, planer, combination, and flooring tooth types are offered for all models of saws. Made by **H. K. Porter Co.**, Disston Div., Unruh & Milnor Streets, Philadelphia 35, Pa.

▲ For more details circle NED-175 D8 on enclosed inquiry slip ▲

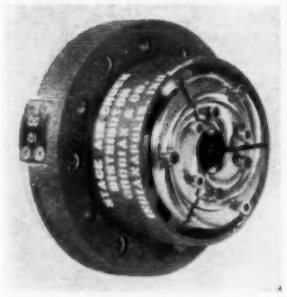
PLUG-IN RELAY
offered in variety of ratings



Standard plug or jack terminals for rapid attachment to a mating fixture on the user's equipment are incorporated in this plug-in general purpose industrial relay. A wide range of alternating and direct current coil voltages is offered with contacts rated 20 amp at 115 v ac or 24 v dc. Small size suits them for use in motor control circuits, fractional horsepower motor starters, signal devices, pressure switches, liquid level controls, machine tools, motor-generator sets, and power supplies. Made by **Wheelock Signals, Inc.**, Dept. NED, Long Branch, N. J.

▲ For more details circle NED-176 D8 on enclosed inquiry slip ▲

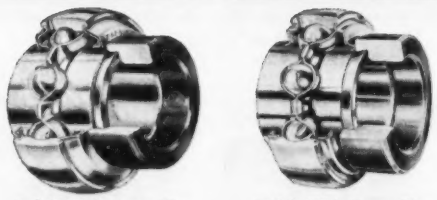
AIR CHUCK
for internal and external chucking



Magic Air Cap built into the Model 41A air chuck adapts it for either internal or external chucking. The 1 x 1⅝-in. cap, located on the large diameter of the chuck, is rotated 180 degrees after removing four screws to reverse the chucking direction. Various standard and special chuck jaws add to the chuck's versatility. A precision-tooled registering ring provides rapid, accurate installation of previously used jaws. Chuck has a self-contained air chamber and will consistently provide the set pressure until the air line pressure regulator is readjusted. Made by **Crodian & Co.**, 4897 Kessler Blvd., East Dr., Indianapolis 20, Ind.

▲ For more details circle NED-177 D8 on enclosed inquiry slip ▲

"EASIEST BEARING TO INSTALL"



Fafnir Wide Inner Ring Ball Bearing with Mechani-Seals, LL Series

Fafnir Wide Inner Ring Ball Bearing with Plya-Seals, RR Series

NOW OFFERS A CHOICE OF SEALS

You have a choice of either contact-type Plya-Seals or slinger-type Mechani-Seals in Fafnir Wide Inner Ring Ball Bearings and Power Transmission Units. Both types are factory prelubricated and, where the application necessitates, they are available with grease ports for relubrication.

Where speeds are slow to moderate — especially where excessive dirt, dust, or moisture is present — Plya-Seals provide the "best protection yet" against bearing damage and loss of lubricant. In higher speed applications, frictionless Mechani-Seals lock grease in, dirt out.

Both types of bearings are dimensionally interchangeable and feature wide inner ring design for extra-sturdy mountings. Write for details. The Fafnir Bearing Company, New Britain, Connecticut.

FAFNIR BALL BEARINGS MOST COMPLETE LINE IN AMERICA

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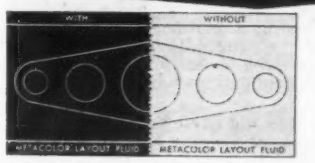
A METAL DYE AND LAYOUT FLUID

DRIES INSTANTLY
NON-TOXIC
NON-EXPLOSIVE
QUICKLY REMOVABLE IN VAPOR DEGREASER

METACOLOR



Scribed lines stand out in sharp contrast on finished metal surfaces coated with METACOLOR. Dries to the touch in 15 seconds!

For Coloring Metal
Laying Out Dies
Templates
Patterns . . .
and for Color Coding by Brush Spray or Dip

For Complete Information Phone BAker 5-8201 or write:

PHILLIPS PROCESS CO. INC.
58 COMMERCIAL STREET
ROCHESTER 14, N. Y.

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Its New Principle TRAPS $$$

the uni/RAP® STEAM TRAP

UNIVERSAL PRESSURE RANGE
0 to 250 lbs. without changes or adjustments
Tremendous Capacity—up to 55,000 lbs/hr Condensate
Inline Maintenance • Faster Warmup • Reduced Wear

The patented Dual-Valve* of the Unitrap does it. Its pilot valve opens the large-orifice main valve and the condensate discharges immediately—with a minimum of wear and wire drawing—thus delivering maximum temperatures and giving faster warmup. Stainless steel working parts assure long service. The Unitrap traps dollars in steam and service. Ask for Bulletin 800.

*Trade Name Patented

PERFECTING SERVICE CO.
332 Atando Ave., Charlotte, N.C.
Baltimore—Buffalo—Camden, N. J.—Chicago—Cleveland—Los Angeles
New York—Providence—Hamilton, Ont.—Montreal—Toronto

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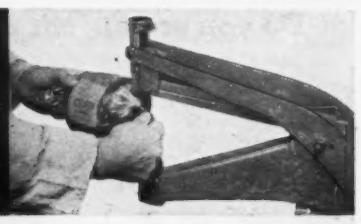
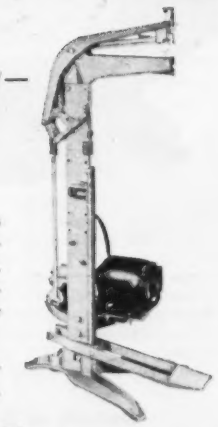
BOTH HANDS FREE



to speed the work—
to fasten more securely—
BOSTITCH STAPLERS
foot or motor driven



Fasten faster, more securely at less cost. Use Bostitch foot or motor operated staplers in place of clips, glue, nails, pins, rivets, rubber bands, solder, string, tapes, tacks, thread or wire ties.

12 models with many interchangeable stapling heads to suit your work.

Fasten it better and faster with

Look up "Bostitch" in your phone book or write 684 Briggs Drive, East Greenwich, R. I.

BOSTITCH® STAPLERS AND STAPLES

▲ For more details circle NED-181 D8 on enclosed inquiry slip ▲

Select FLEXON® REX-TUBE

for Economical Conveying of Liquids • Gases • Granular Solids

Flexon Rex-Tube convoluted flexible metal hose is the ideal answer to conveying non-searching liquids, gases and powdered or granular solids, particularly where flexing is manually controlled. Economically priced, yet ruggedly made for extremely long life, Rex-Tube meets hundreds of low to moderate pressure applications where flexibility is required.

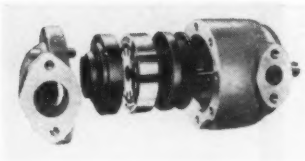
Rex-Tube can provide big savings by eliminating the need for complicated piping and conveying systems. It will pay you to investigate the advantages Rex-Tube offers. Write today for complete information.

RT-12

FLEXONICS CORPORATION
Formerly Chicago Metal Hose Corporation
1343 S. Third Avenue, Maywood, Illinois
Manufacturers of flexible metal hose and conduit, expansion joints, metallic bellows and assemblies of these components.
In Canada: Flexonics Corporation of Canada, Ltd., Brampton, Ontario

For more details circle NED-183 D8 on enclosed inquiry slip

HYDRAULIC PUMPS deliver up to 100 gpm at 1800 rpm



Hydraulically balanced vane assures continuous high efficiency of Series T hydraulic pump, available in rated deliveries up to 100 gpm at speeds to 1800 rpm. Pump is offered in either clockwise or counter-clockwise shaft rotation and can be face, foot, or flange mounted in any of four positions. Rated 2000 psi, unit is applicable to earthmoving equipment, trucks, buses, tractors, power shovels, special machinery such as extrusion presses and automated equipment. Trouble-free starting under any weather condition is assured. Made by **American Brake Shoe Co.**, Denison Engineering Div., 1152 Dublin Rd., Columbus 16, Ohio.

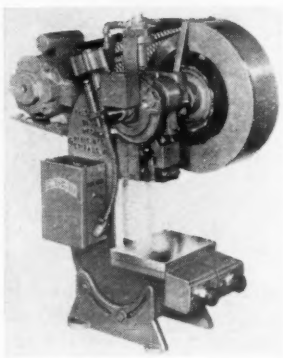
For more details circle NED-186 D8 on enclosed inquiry slip

PUSHNUT FASTENER pushes onto unthreaded rods, rivets

Heavy gage tempered spring steel Pushnut fasteners eliminate need for threading, notching, or drilling for cotter pins in the assembly of small toys and industrial fabrications. Fastener pushes onto unthreaded rods or rivets for secure assembly. A quick tap of a hammer applies the Pushnut without deformation. Removal forces range from 100 to 1000 lb according to size used. Type W Pushnuts are available for 3/16, 3/8, and 7/16-in. diameter unthreaded rod. Made by **Palnut Co.**, Dept. 45-L, 61 Glen Rd., Mountainside, N. J.

For more details circle NED-187 D8 on enclosed inquiry slip

5-TON PUNCH PRESS speed increased to 450 spm



Use of an Airflex air friction clutch has increased the production speed of this No. 0 Press-Rite 5-ton press from 225 to 450 strokes per minute. Clutch and brake are interlocked to prevent one from being engaged while the other is operating. Brake is air released, with a spring-applied safety. If air or electric power fails, the clutch disengages and brake is applied. Linings are self-compensating for wear. Made by **Sales Service Machine Tool Co.**, Press-Rite Div., Dept. N, 2365 University Ave., St. Paul 14, Minn.

For more details circle NED-188 D8 on enclosed inquiry slip

Fast CUTTING-OFF TUBING and BAR STOCK the Modern Way

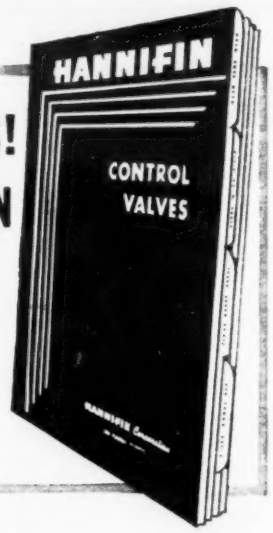
Automatic operation—from loading to final cut-off. Handles tubing up to 8" O.D. Very fast. With special tools, parts being cut off may be formed, grooved, flanged or chamfered in a single operation—at a high rate of speed.

WRITE
New catalog describes all models — gives production figures. Mailed on request.

MODERN MACHINE TOOL CO.
2005 Losey, Jackson, Michigan

For more details circle NED-190 D8 on enclosed inquiry slip

HANNIFIN



DIMENSIONS! APPLICATION DATA! DISCOUNTS! PRICES!

The Air Control Valves you need are in this catalog

- Poppet-Type
- Rotary Disc
- Sliding Disc
- Speed Control

HANNIFIN

Hannifin Company, 527 S. Wolf Road, Des Plaines, Illinois
AIR and HYDRAULIC CYLINDERS • PRESSES • AIR CONTROL VALVES

For more details circle NED-191 D8 on enclosed inquiry slip

HAVE YOU CHECKED YOUR COUNTERSINKING COSTS LATELY?

A Severance CARBIDE ECONO-SINK WILL GIVE YOU —

- INCREASED ACCURACY
- MORE PRODUCTION
- SMOOTHER SEATS
- LONGER CONSISTENCY OF OPERATION
- LESS DOWN-TIME
- AND A COMPLIMENT FROM THE BOSS FOR SUGGESTING THE CHANGE

Chatter-Free DESIGN
Solid CARBIDE CUTTING HEADS
MAKE THE Switch to Carbide BEFORE IT'S TOO LATE

WITH THE NEW Severance CARBIDE ECONO-SINK YOU GAIN ALL THE ADVANTAGES OF CARBIDE TOOLING - AND AT LESS COST per Countersunk Hole

Ask for Information & Prices TODAY!

Ask for a Severance catalog today!

Severance TOOL INDUSTRIES INC.
761 Iowa Avenue Saginaw, Michigan

For more details circle NED-184 D8 on enclosed inquiry slip

Do you screen, sift or grade dry materials?

Get the facts on BAR-NUN Rotary SIFTERS

Features include: Rapid, accurate separations, achieved by complete rotary motion . . . big capacity in limited floor space . . . dust-tight, totally enclosed construction . . . easy cleaning . . . optional stainless steel product zone . . . all-mechanical heavy-duty construction. Available with from 2 to 78 square feet of screen area—for single or multiple separations of dry materials, as fine as 325 mesh. Here's real screening efficiency, economy, durability.

Details in 6-page Bulletin 503

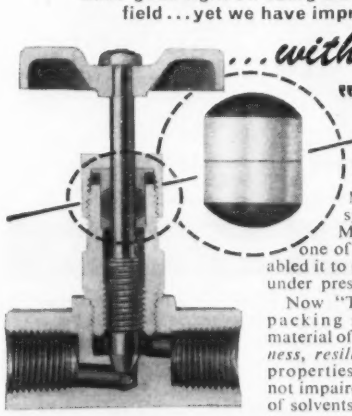
FEEDING · MIXING · SIFTING · GRINDING · WEIGHING · PACKING and PACKAGING EQUIPMENT FOR THE PROCESS INDUSTRIES

B. F. GUMP Co.
Engineers and Manufacturers since 1872
1336 S. Cicero Avenue, Chicago 50, Illinois

For more details circle NED-185 D8 on enclosed inquiry slip

"...yet we have IMPROVED it"

The Marsh Stainless Steel Needle Valve could have gone right on being the finest in its field ... yet we have improved it



...with fabulous "TEFLON" packing

Note the "close-up." The Marsh Marpak packing system, originated in the Marsh Needle Valve, was one of the factors that has enabled it to stand up and work right under pressures up to 10,000 psi.

Now "Teflon" is used in this packing system—the miracle material of almost incredible *toughness, resilience* and *non-adhesive* properties...properties that are not impaired by the most powerful of solvents, acids, or alkalies even at temperatures *up to 500° F.*

Net result: The guaranteed application-range (up to 10,000 psi) is now effective at any temperature up to 500° F. (In other makes, permissible temperature decreases as pressure increases.)

Marsh Marpak Teflon Packing System is standard in Marsh 416 Stainless Steel Needle Throttling Valves. Ask for facts.

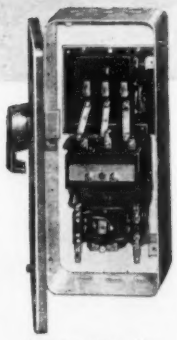
MARSH Needle Valve in 416 stainless steel throughout
Now with "Teflon" Packing

MARSH INSTRUMENT CO. *Sales Affiliate of Jas. P. Marsh Corp.*, Dept. 26, Skokie, Ill.
Marsh Instrument and Valve Co. (Canada) Ltd., 8407 103rd St., Edmonton, Alberta
Houston Branch Plant: 1121 Rothwell St., Sect. 15, Houston, Texas

For more details circle NED-189 D8 on enclosed inquiry slip

COMBINATION STARTERS ... improved for extra safety

with disconnect switch or circuit breaker



Bulletin 712, Size 2—to 15 hp, 220 v; 25 hp, 440-550 v.

A-B combination starters have a newly styled handle that can be locked OPEN or CLOSED with up to three padlocks. With the cabinet door open, *all three* open contacts of the disconnect switch are plainly visible. Also, the "line" connections are shielded from accidental contact. Bulletin 712 starters use disconnect switch; Bulletin 713 starters equipped with I.T.E. circuit breaker. Both make a neater installation. Also, both cost less than installation of starter with separate disconnect switch. Write for Handy Catalog, today.

Allen-Bradley Co.
1334 S. Second St., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

A-B QUALITY

ALLEN-BRADLEY MOTOR CONTROL QUALITY

For more details circle NED-192 D8 on enclosed inquiry slip

New B&W Booklet Helps You Match the Tube to The Job

If you use seamless or welded stainless mechanical tubing, this new booklet can save you time and money. It details range of tubing available — why and how tubing shapes, sizes, grades and finishes are tailored to specific applications. And it contains complete, handy tolerance tables.

It's free and without obligation. Just write for Bulletin TB-365. The Babcock & Wilcox Company, Tubular Products Division, Beaver Falls, Pa.

B&W TUBULAR PRODUCTS DIVISION

TA-8020-ML2

Seamless and welded tubular products, solid extrusions, seamless welding fittings and forged steel flanges—in carbon, alloy and stainless steels and special metals.

▲ For more details circle NED-193 D8 on enclosed inquiry slip ▲

NEW ELLIOTT 5100 SERIES

Heat Exchanger Tube Cleaner

Small tube cleaning is a cinch with this new, lightweight machine in hand. Motor is powerful air-driven type with a water feeding attachment. Built-in governor eliminates shaft whip — built-in oil reservoir assures long life with minimum maintenance. Available in two sizes. For details, contact your local Elliott representative or write Elliott Company, Springfield, Ohio.

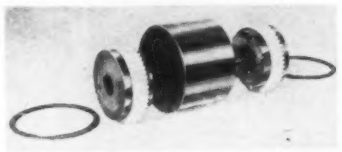
Y6-6

ELLIOTT Company

STEAM TURBINES • MOTORS • GENERATORS • DEAERATING HEATERS • EJECTORS • CONDENSERS • CENTRIFUGAL COMPRESSORS • TURBOCHARGERS • TUBE CLEANERS • STRAINERS

▲ For more details circle NED-194 D8 on enclosed inquiry slip ▲

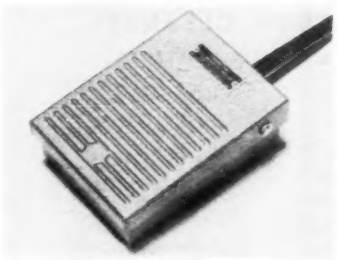
FLEXIBLE GEAR COUPLING
for ½ to 1⅝-in. diameter shafts



Capable of transmitting up to 1800 lb-in. of torque, Model 162M coupling requires no lubrication. By using interchangeable bushings, shaft sizes from ½ to 1⅝ in. are accommodated. No lubrication is required because of stress-relieved, injection molded nylon gears. Held in place on the steel hubs by spring rings, gears make a smooth, resilient contact with the steel sleeve. Weight is only 6½ lb. Made by **John Waldron Corp.**, Box 791, New Brunswick, N. J.

▲ For more details circle NED-196 D8 on enclosed inquiry slip ▲

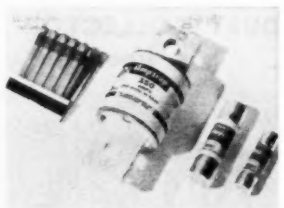
FOOT SWITCH
three modes of operation offered



Weighing only 9½ oz, the Hi-treadlite foot switch is available for single-pole double - throw, single - pole double-throw double-break, or simulated double-pole double - throw operation. The switch is designed for original equipment use and has a steel housing with skidproof rubber base pad. Size is 3½ x 2½ x 1¼ in. and standard finish is gray hammertone. Special colors, nameplates, or cordsets may be ordered. Made by **Linemaster Switch Corp.**, 432 Woodstock Terrace, Woodstock, Conn.

▲ For more details circle NED-197 D8 on enclosed inquiry slip ▲

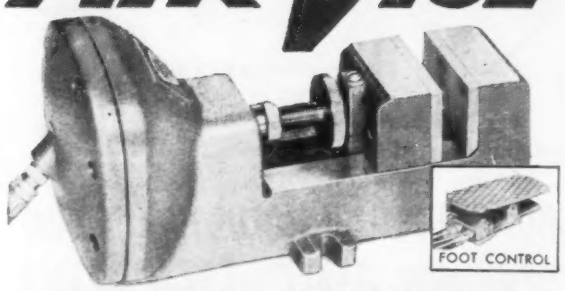
CIRCUIT PROTECTOR
has high interrupting capacity



Anticipation and prevention of the rise of fault currents to high destructive maximum is function of the Form 101 electronic Amp - trap circuit protective device. It has high interrupting capacity and becomes current limiting at about four times its normal current rating. The current limiter will continuously carry from 1 to 10,000 amp of normal current, depending on its rating. It protects against overload, and blows instantly on short circuit before damage can be done. Capacities and sizes for use in 65-130 and 250-v circuits in rectifier, electronic, and power applications are available for protection of small germanium and silicon diodes, oscillograph circuits, and delicate instrumentation. Made by **Chase-Shawmut Co.**, 382 Merrimac St., Newburyport, Mass.

▲ For more details circle NED-198 D8 on enclosed inquiry slip ▲

Speedy AIR VISE



HIGH SPEED · POWERFUL GRIP

New, improved model speeds up all repeat operations—*milling, drilling, tapping, punching, bending, riveting.* Both hands left free to produce more! Light squeeze to 2250 pounds pressure! Extra thick jaws for attaching jigs. Jaws open to 3-inches; 1/16" to 5/8" maximum travel. Complete with foot control, air hose and fittings..... **$44.00**

SPEEDY 1-TON AIR PRESS

Does the work of expensive presses! Power factor 15 times air line pressure. 5-inch throat; Ram 0 to 5" stroke ⅝"; table 5" x 5". Operated by foot or fingertip controls. **$85.00**

Order from Your Supplier or Write for Air Tool Catalog

W. R. BROWN CORP., 2647 N. Normandy Ave., Chicago 35

AIR TOOLS • AIR VISES • AIR REGULATORS • FILTERS • COMPRESSORS

▲ For more details circle NED-199 D8 on enclosed inquiry slip ▲

Accidents cost more than ALCOA ABRASIVE TREAD PLATE

An employee slips on a greasy floor and twists his knee. A severe, chronic inflammatory condition results. Medical costs and Workmen's Compensation total $10,553.77. The employer's accident rate is up. Production time is lost while a new man is trained.

This is just one of 20,000 avoidable slipping accidents in industry every year. Alcoa® Aluminum Abrasive Tread Plate with lasting slip-proof qualities prevents such accidents. Tough particles of fused aluminum oxide in its abrasive surface stay slip-proof even when wet, oily or greasy. It is the only nonskid floor surface that gives you the advantages of corrosion resistance and light weight.

Learn how you can eliminate hazardous conditions on floors, stairs, ramps and other areas. Check the coupon below; write Aluminum Company of America, or call your nearest Alcoa distributor.

Make Your Own 30-Second Safety Test . . . Check the Coupon for FREE Sample of Alcoa Aluminum Abrasive Tread Plate.

ALCOA ALUMINUM

Your Guide to the Best in Aluminum Value

"ALCOA THEATRE"

Exciting Adventure, Alternate Monday Evenings

Alcoa Abrasive Tread Plate gives a safe, sure grip—even when wet, oily or greasy.

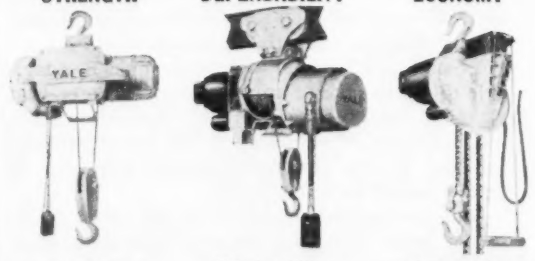
Aluminum Company of America
1668-D Alcoa Building
Pittsburgh 19, Pennsylvania

I'd like to see how Alcoa Abrasive Tread Plate prevents slipping. Please send me FREE sample—also application, design and fabricating data.

Name and Title_____
Company_____
Address_____
City and State_____

▲ For more details circle NED-200 D8 on enclosed inquiry slip ▲

STRENGTH | DEPENDABILITY | ECONOMY | SAFETY | DURABILITY | VERSATILITY



Yale Cable King Electric Hoist Capacities: ¼ to 15 tons

Yale Load King Electric Hoist Capacities: ¼ to 1½ tons

Yale Midget King Electric Hoist Capacities: ⅛ to 2 tons

Yale Load King Hand Hoist Capacities: ½ to 12 tons

Yale Spur-Geared Chain Hoist Capacities: ¼ to 40 tons

Yale Pul-Lift Capacities: ¾ to 15 tons

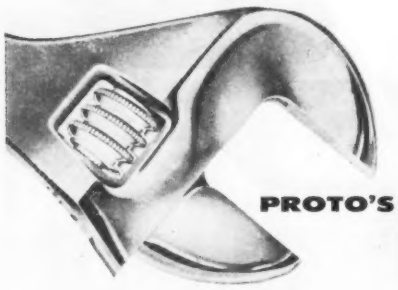
6 SOLID REASONS
why YALE can meet your lifting needs

Whether you need one Yale Hoist or an integrated system, you can select the Yale Hand and Electric Hoists and Trolleys *exactly* suited to your handling operations. All Yale Hoists and Trolleys offer you advanced engineering features that assure maximum efficiency, durability, versatility and safety. For complete information, write The Yale & Towne Mfg. Co., Philadelphia 15, Pa., Dept. A-374

YALE* INDUSTRIAL LIFT TRUCKS AND HOISTS

*REG. U. S. PAT. OFF.

▲ For more details circle NED-195 D8 on enclosed inquiry slip ▲



NEW!

PROTO'S CLIK-STOP ADJUSTABLE WRENCHES PAT. PEND.

GOLDEN KNURL HOLDS EXACT JAW OPENINGS AUTOMATICALLY!

NO BUTTONS...NO LEVERS...NO GADGETS

Use it like an ordinary "adjustable." Merely turn Golden Knurl, jaws click automatically into desired opening...even non-standard and foreign sizes. Jaws won't work loose. Drop-forged, fine Protoloy steel. Thin head for tight places. Highly polished, chrome plated. Job tested and approved by mechanics, coast to coast. Try the Clik-Stop now!

Federal Specifications: GGG-W-631A, Type I

Available in FIVE popular sizes

704L 706L 708L 710L 712L
4" 6" 8" 10" & 12"

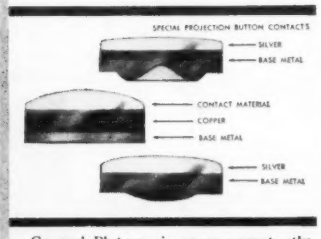
ANOTHER REASON YOU'LL PREFER PROTO PROFESSIONAL WRENCHES

PROTO TOOLS — PROTO means PROfessional TOols — PENDLETON DIVISION OF TOOL INDUSTRIES INC.

2209 Santa Fe Ave.
Los Angeles 54, Calif.

▲ For more details circle NED-201 D8 on enclosed inquiry slip ▲

GENERAL PLATE
Anticipates
Tomorrow's Contact Problems
Today



General Plate engineers are constantly working to develop new ideas in contacts and contact materials to be ready to meet tomorrow's needs.

There are many advanced contacts and contact materials already in commercial production at General Plate, just as there are always new ideas in contacts and contact materials under development — all for the purpose of providing maximum contact performance at minimum cost.

Clad Electrical Contact Tapes — designed for high speed mechanized assembly.

New Metal Bonding Processes — offer improved contact materials.

New Clad Button Projection — designed and produced to meet your specific application requirements.

Single and Double Inlay-Overlay-Top-Lay — achieves permanent bonding of preferred contact metals to practically any malleable base metal without intermediate bonding agents.

Trimetal Clad Projection Welding Contacts — a copper conductor between contact face and backing.

Technical data bulletins are available on request — just let us know what types of contacts you are interested in.

You Can Profit By Using General Plate Clad Metals.

METALS & CONTROLS CORPORATION
General Plate Division
1804 Forest Street
Attleboro, Mass.

▲ For more details circle NED-202 D8 on enclosed inquiry slip ▲

Get These Catalogs on

WATER PURIFICATION

They Can Lead to
SUBSTANTIAL SAVINGS
In Your Plant or Laboratory

CATALOG "G"	Describes BARNSTEAD WATER STILLS in capacities up to 1000 gallons per hour.
CATALOG 127	Shows the Barnstead line of Water Demineralizers in capacities up to 2500 gph.
BULLETIN 141	Newest development in Pure Water Filtration . . . . Barnstead MF SUBMICRON Filter which filters out particles to 0.45 micron.
BULLETIN 139	Presents Barnstead's complete line of tin-lined Piping and Fittings to keep distilled water pure to point of use.
BULLETIN 140	Lists Barnstead's line of Water Demineralizers for Laboratory use.
BULLETIN 128	Describes the Barnstead Pressure Bantam Water Demineralizer. Employs replaceable cartridge.

Barnstead
STILL & STERILIZER CO.
16 Lanesville Terrace, Boston 16, Mass.
FIRST IN PURE WATER SINCE 1878

▲ For more details circle NED-203 D8 on enclosed inquiry slip ▲

DIE & MOLD SPRAYER
applies lubricants or release agents

Usable on presses, upsetters, rolls, hammers, and other equipment, this Moto - Spray automatically applies lubricants or release agents to dies, molds, plungers, mandrels, cutting tools, or other parts. Device plunges into position at high speed, discharges metered spray from one to five nozzles, and retracts before tool descends. Special nozzles can be supplied to give any desired spray pattern or direction. Its operation is synchronized mechanically or electrically with the machine on which it is installed. It is also adaptable for any timed or other spray or coating operation. Made by, **Renite Co.**, Dept. NE, Box 8065, Columbus 1, Ohio.

▲ For more details circle NED-204 D8 on enclosed inquiry slip ▲

WET & DRY VACUUM CLEANERS
can also be used as blowers

Model 77, 88, and 99 E-Con-O-Vac heavy duty vacuum cleaners have swivel hose connections on intake and exhaust (or blower) openings, both of which are in the cast aluminum head. Machines are suited for wet and dry pickup without change, or for use as blowers. They are mounted on 8 x 1¾-in. resilient wheels, have recessed carrying handles, push-pull handle, by-pass type motors, Quick-Fasten floor tools and accessories, and an easily attached utility basket. Made by **General Floorcraft, Inc.**, Dept. NED, 421 Hudson St., New York 14, N. Y.

▲ For more details circle NED-205 D8 on enclosed inquiry slip ▲

DUST COLLECTOR
has wool felt cylinder filters

In the Micro-Pulsaire dust collector, dust - laden air is filtered through matted wool felt cylinders in a dust-tight housing. Filters are cleaned by reverse flow of air for 1/10 sec every 10 sec. Filter bags are cleaned alternately to assure constant air flow. Units are suitable for dust collection and product recovery in the drug, chemical, cosmetic, and food fields. Made by **Metals Disintegrating Co.**, Pulverizing Machinery Div., 178 Chatham Rd., Summit, N. J.

▲ For more details circle NED-206 D8 on enclosed inquiry slip ▲

PRODUC-TROL Visual Control
not only schedules,
But automatically checks with
TIME, LINE and COLOR control

- Original cost and upkeep low.
- Schedules and time checks operations.
- Historical record to back it up.
- Bad situations show automatically.
- Its simplicity has put it into world-wide use.
- Analyze 100 items in 10 seconds.

Effective Tools for Effective Management
WASSELL ORGANIZATION, INC. Westport, Conn.

Phone CA7-4111 or write for Free PRODUC-TROL Booklet NED
NAME..... COMPANY.....
ADDRESS.....
CITY..... STATE.....

▲ For more details circle NED-207 D8 on enclosed inquiry slip ▲

MAKE CLEANER CUTS—No sanding, no finishing required. 2" diameter saw blade gives finished, mill-edge cuts up to ⅜" in metal laminates such as Mirawal, AllianceWall, ColorWall, Met-L-Wood and Armorply as well as wood.

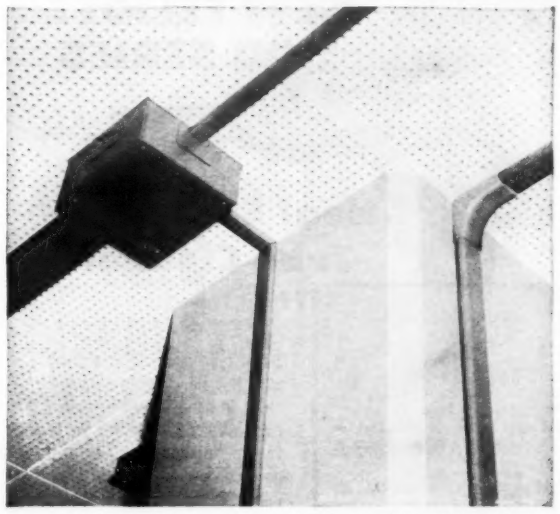
MAKE QUICKER CUTS—Heavy duty 110v. AC/DC portable motor. Zip thru Fiberglas, plastics, plastic laminates—3/16" aluminum—even 16 gauge steel. **BALL BEARING DRIVE THRUOUT** assures smooth, trouble-free operation.

Excellent for metal pan type acoustical tile ceiling.

KETT
PANEL CUTTER SAW

Write for Catalog E-28
THE KETT TOOL CO.
5051 Madison Road
Cincinnati 27, Ohio

▲ For more details circle NED-208 D8 on enclosed inquiry slip ▲



Runs of Metal Molding on a modernization job. 333 and 888 have been employed along with NE Surfaceduct to complete a neat installation across the building's acoustical ceiling.

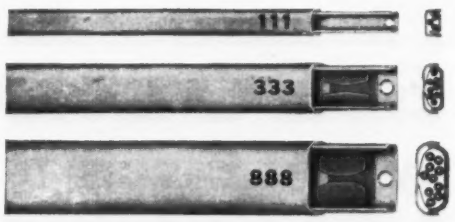
adaptable

NE Metal Molding

A neat surface wiring system that's economical to install, National Electric metal molding has proved ideal on modernization jobs in office, institutional, commercial and industrial buildings.

You'll find NE Metal Molding completely adaptable to the interior of any structure. It can be bent around columns, chair rails and other offsets without buckling. When installed NE Metal Molding provides a safe permanent system that can be readily added to or changed.

Send for complete literature on NE Metal Molding or better still try it on your next modernization job.

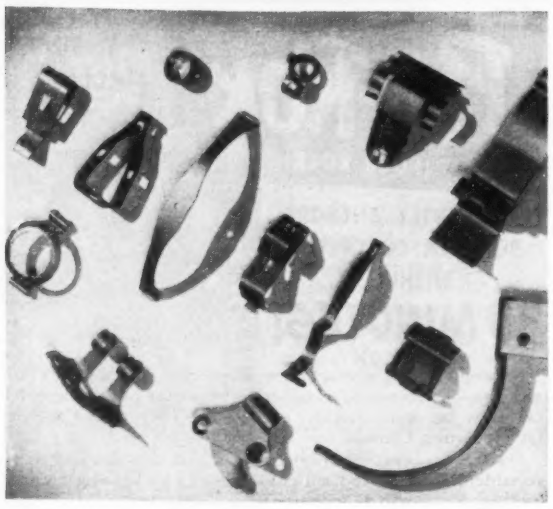


Furnished in three sizes, NE Metal Molding carries up to 10 conductors . . . is installed by simply attaching base, laying in the wires and snapping on capping. No fishing is necessary.

Listed by Underwriters' Laboratories Inc.

National Electric Products
PITTSBURGH, PA.
2 Plants • 12 Warehouses • 41 Sales Offices

▲ For more details circle NED-209 D8 on enclosed inquiry slip ▲



Flat Springs

Made from our cold-rolled specialty steels or the material of your choice. Ingenuity of tool design and versatile forming equipment combine operations and simplify production. Exceptionally varied experience in this class of work. Send samples or specifications for quotation.

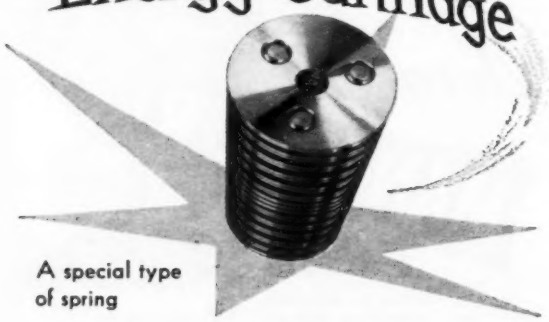
Associated Spring Corporation
General Offices
Bristol, Connecticut

5920

▲ For more details circle NED-210 D8 on enclosed inquiry slip ▲

NEW . . . COMPACT . . .

Energy Cartridge*



A special type of spring

For high loads at minimum deflection

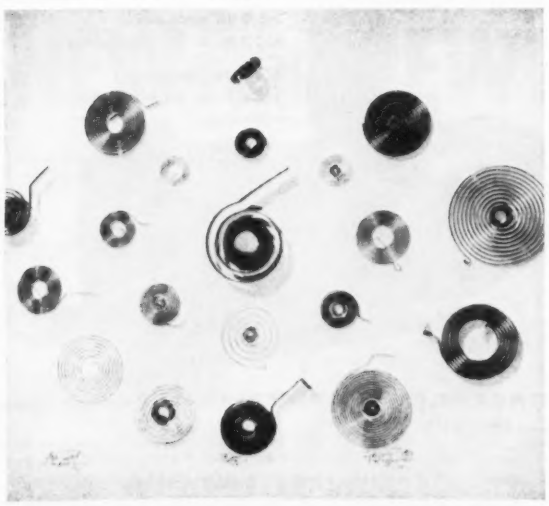
A special type of spring for high loads at minimum deflection. Consists of Belleville washers designed for specific applications and preassembled in a compact unit. Washers can be stacked in series, parallel, or parallel-series depending on load and space requirements. Saves assembly and installation time. For description, write for "Energy Cartridge" pamphlet.

*(Pat. No. 2,482,449)

Associated Spring Corporation
General Offices
Bristol, Connecticut

5932

▲ For more details circle NED-211 D8 on enclosed inquiry slip ▲



Hairsprings

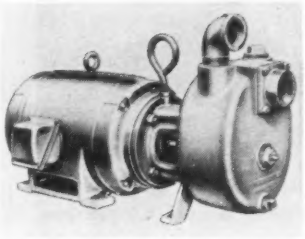
Manross Division of A.S.C. is one of the oldest makers of hairsprings used in instruments, meters, gauges, watches, etc. Accuracy and dependability assured. Write for hairspring booklet giving helpful design and material selection information.

Associated Spring Corporation
General Offices
Bristol, Connecticut

5925

▲ For more details circle NED-212 D8 on enclosed inquiry slip ▲

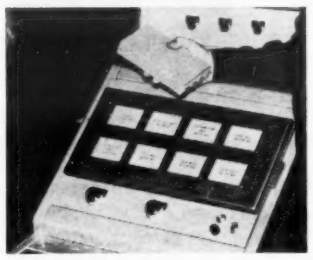
SELF-PRIMING PUMP
capacity ranges from 10 to 1450 gpm



Line of electric powered, self-priming, centrifugal pumps is engineered with only four moving parts. Close-coupled, flexible-coupled, and pump only models are available for industrial and construction uses in 1½ to 10-in. sizes with capacities from 10 to 1450 gpm. The nonclogging, self-cleaning impellers operate without vibration. Made by **Crown Mfg. Co.**, Dept. C, Waterloo, Iowa.

▲ For more details circle NED-213 D8 on enclosed inquiry slip ▲

ANNUNCIATOR-MONITOR
for complex automatic systems

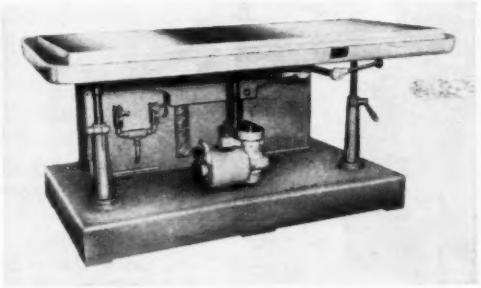


Using static-magnetic controls which have no moving parts, this annuciator will monitor complex automatic systems. Plug-in components facilitate changing of sequences without rewiring and allow expansion of system as required. The static controls are capable of "and," "not," "or," and "memory" logic functions. They can be set up to cover any possible arrangement, information, or set of conditions. Made by **Panellit, Inc.**, Panalarm Div., 7421 N. Hamlin Ave., Skokie, Ill.

▲ For more details circle NED-214 D8 on enclosed inquiry slip ▲

POWER ELEVATING TABLE
raises heavy parts for drilling

Heavy parts loaded onto this power elevated table are quickly lifted to working height of drilling or tapping machine. One position of the simple con-



trol lever lowers the table, another position raises it, and a third locks table in place. Simple gear motor provides the power. Limit switches control both top and bottom limits of table travel. Made by **Edlund Machinery Co.**, 38 Huntington St., Cortland, N. Y.

▲ For more details circle NED-215 D8 on enclosed inquiry slip ▲

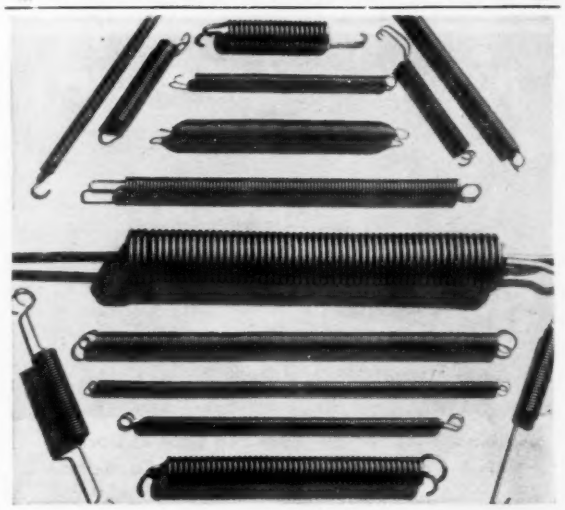
Power Springs

A.S.C. Divisions are unusually well equipped for the manufacture of flat spiral and motor springs. Made from our own cold-rolled specialty steels or other suitable metal, they can be furnished in sizes and methods of end attachment to meet your requirements. Write for handy pamphlet "Spring Design and Selection—in brief."

Associated Spring Corporation
General Offices
Bristol, Connecticut

5926

▲ For more details circle NED-217 D8 on enclosed inquiry slip ▲



Extension Springs

All types and sizes custom made to meet your performance requirements. Wide range of end coil treatment, hooks and loops. Also swivel end and drawbar types. Precision made to hold dimensions and load carrying capacity. Send for pamphlet "Spring Design and Selection—in brief."

Associated Spring Corporation
General Offices
Bristol, Connecticut

5921

▲ For more details circle NED-218 D8 on enclosed inquiry slip ▲

Engineering, manufacturing, and sales facilities located coast-to-coast for custom service on all your requirements

BRISTOL, Conn.
Wallace Barnes Division
Dunbar Brothers Division
F. N. Manross and Sons Division

SYRACUSE 9, N. Y.
Wallace Barnes Division
State Fair Boulevard

CORRY, Pa.
Raymond Manufacturing Division

HAMILTON, Ontario, Canada
The Wallace Barnes Company Ltd.
274 Sherman Ave. North

MONTREAL, Quebec, Canada
The Wallace Barnes Company Ltd.
Nordic Ave. at Hymus Blvd.
Pointe Claire

CLEVELAND 23, Ohio
Sales Office
22700 Shore Center Avenue

DAYTON 3, Ohio
Ohio Division
1825 East First Street

PLYMOUTH, Mich.
B-G-R Division
40300 Plymouth Road

ANN ARBOR, Mich.
B-G-R Division
401 East Stadium Boulevard

CHICAGO 14, Ill.
Gibson Division
1800 Clybourn Ave.

MILWAUKEE, Wis.
Milwaukee Division
341 East Erie Street

LOS ANGELES, Calif.
Seaboard Pacific Division
15001 South Broadway
Gardena, Calif.

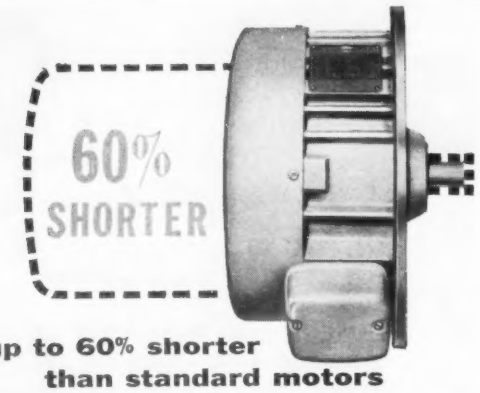
SAN FRANCISCO, Calif.
Sales Office
19031 Saratoga Glen Place
Saratoga, Calif.

Wallace Barnes Steel Division
Bristol, Conn.
High Carbon Strip Steel

Associated Spring Corporation

General Offices
Bristol, Connecticut

▲ For more details circle NED-216 D8 on enclosed inquiry slip ▲



up to 60% shorter than standard motors

NEW Louis Allis Pancake Motor

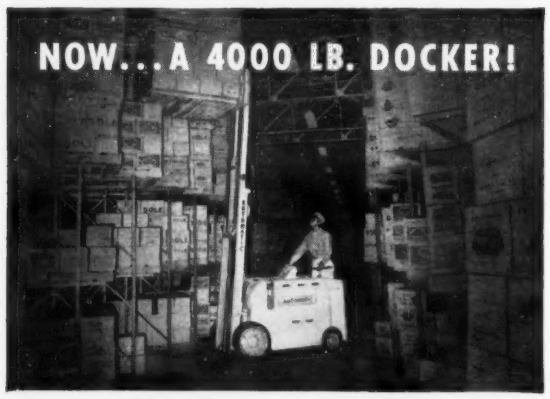
The new Louis Allis Pancake Motor is up to 60% shorter than other motors of its type. Actually, it's a conventionally-built—and consequently trouble-free—radial air-gap motor that's been compressed to less than half the length of many flange-mounted motors. The Pancake Motor couples space-saving design with top quality . . . maintains NEMA service factor.

The Pancake is ideal for machine tools, roof ventilators — any application where space is critical. Features include a rigid cast iron frame, pre-lubricated oversize bearings, and an insulating varnish that provides the highest degree of moisture, acid, and alkali resistance. Sizes from 1 to 15 hp, open or enclosed. Write The Louis Allis Company, 436 East Stewart Street, Milwaukee 1, Wisconsin.

SM-103

LOUIS ALLIS

For more details circle **NED-220 D8** on enclosed inquiry slip



Automatic Adds New Rear End Control Docker with 8-way Superiority Plus Higher Capacity

This new, high quality piece of equipment, Model FFEH, is designed specifically for handling loads up to 4000 lbs., 48" long, in close quarters. It has the same 8-point superiority characteristic of all Dockers: (1) faster lift and travel for higher productivity; (2) lower center of gravity and 4-wheel suspension for greater safety; (3) shorter, more compact chassis for easy maneuvering; (4) higher grade clearance increases operating range; (5) shorter turning radius improves maneuverability; (6) lower step height and rear end control enable operator to get on and off easily and safely; (7) heavy duty Class-H Silicone insulated motor insures maximum heat protection; (8) greater visibility when maneuvering.

Capacities: 1500, 2000, 3000 and 4000 lbs. Convenient lease or purchase plans. Write for details...no obligation.

Automatic Electric Industrial Trucks
Cost Less to Own...Less to Operate

AUTOMATIC TRANSPORTATION COMPANY
Division of The Yale & Towne Manufacturing Company
61 West 87th St.—Dept. D8—Chicago 20, Illinois

Electric Automatic Industrial Trucks

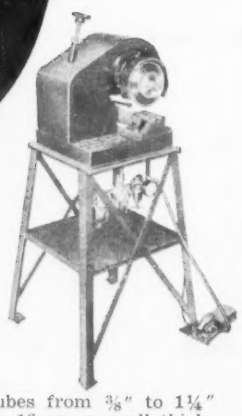
WORLD'S LARGEST EXCLUSIVE BUILDERS OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS

For more details circle **NED-221 D8** on enclosed inquiry slip

...Pays for itself!

NO MATERIAL LOSS

Cuts up to 2,000 tubes per hour!



CONTINENTAL
PIPE & TUBE
ROTARY CUT-OFF MACHINE

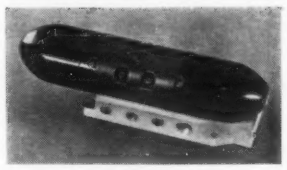
It zips right through tubes from 3/8" to 1¼" O. D., from light gauge to 16-gauge wall thicknesses. Adjustable table with 5 Dual-Roller Forks. Also Cut-Off Machines for pipes and tubes up to 12" diameter, air or hand-operated.

SINCE 1919

Continental machine co.
2345 W. NELSON ST. • CHICAGO 18, ILL.

For more details circle **NED-222 D8** on enclosed inquiry slip

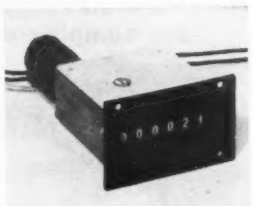
DIRECTIONAL CONTROL VALVE for 1000-psi air, water, or oil



Plug - in, direct - acting solenoid is feature of this multipurpose directional control valve that meets JIC standards. Offered in single and double solenoid models, valve can be used in air, water, or oil service at pressures to 1000 psi. Assembly has ½-in. passages and can be supplied with ¼, ⅜, or ½-in. ports. Wiring is permanently embedded. Made by **Alkon Products Corp.**, 202 Central Ave., Hawthorne, N. J.

For more details circle **NED-223 D8** on enclosed inquiry slip

ELECTRICAL COUNTERS rated at 3000 counts per minute



Rated 3000 counts per minute, but capable of up to 6000 counts per minute, Series 1591 panel-mounted electrical counters have an expected life of over 200 million counts. Instant reset is achieved in both electrically and manually reset types by heart-cam mechanism. Panel sizes are 1.7 x 2.1 in. for the 4-figure model and 1.7 x 2.8 in. for the 6-figure counter. Designed for direct-current operation, units will operate on alternating-current with simple external rectifying circuit. A hermetically sealed model and an internal switch for simultaneously pulsing allied equipment are available. Made by **Veeder-Root Inc.**, 19-P Sargeant St., Hartford 2, Conn.

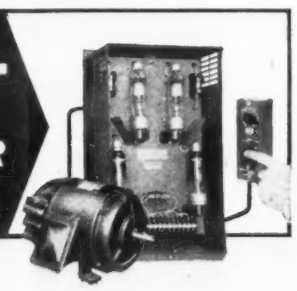
For more details circle **NED-224 D8** on enclosed inquiry slip

GENERAL PURPOSE LATHE is low-cost 12-in. machine tool

Built for close tolerance work, Atlas 12-in. lathes take up to 24 and 36 in. between centers. Features include V-belt drive, power cross and longitudinal feeds, and wide feed and thread cutting range. Machines are available in pedestal base models with underneath drive, and in bench models with horizontal bench-mounted countershaft. Quick-change gear lathes have 54 selections from 4 to 240, while standard change gear models have 98 selections, from 4 to 96. They have 16 spindle speeds in range of 28 to 2072 rpm. Bench lathe prices start at $325. Made by **Atlas Press Co.**, 2223 N. Pitcher St., Kalamazoo, Mich.

For more details circle **NED-225 D8** on enclosed inquiry slip

V★S JR. CHANGES DRIVE MOTOR SPEEDS



Available from ¾ hp. to 4 hp., the Reliance V★S Jr. operates from single phase a-c. power. Any motor speed from 290 rpm. to 2300 rpm. may be accurately selected by turning a dial.

Operator's control station, located for convenience and efficiency, has start, stop, run, jog buttons and speed selector.

Also available — dynamic braking, reversing.

D-1574

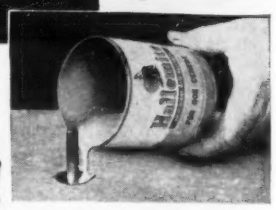
$762.00 List price — ¾ hp. model, 220 or 440 v a-c. Includes control unit, operator's station and drive motor.

RELIANCE ELECTRIC AND ENGINEERING CO.

DEPT. 244A CLEVELAND 17, OHIO
Sales Offices and Distributors in principal cities

For more details circle **NED-226 D8** on enclosed inquiry slip

POR-ROK (POUR ROCK) Fast Setting Cement



PERMANENTLY ANCHORS BOLTS IN CONCRETE WITHIN 30 MINUTES!

Securely fastening machinery, hand rails, seats, fixtures or any type of equipment to concrete by means of anchor bolts can now be done quickly, easily and safely with Por-Rok Quick Setting Cement.

Por-Rok successfully replaces lead and sulphur, and costs considerably less. Applied cold, there is no heating hazard. Simply mix Por-Rok powder with water and pour around bolt. Within 30 minutes the cement sets hard and the bolt is anchored permanently.

Por-Rok also makes quick, lasting repairs to holes and breaks in concrete floors with little or no interruption to normal traffic. It is self-bonding, self-leveling, oil-resistant, does not shrink. Compression strength of 4500 lbs. p.s.i. in one hour GUARANTEED.

For complete information—without obligation—write

THE HALLEMITE MFG. CO.
2452 WEST 25th ST. • CLEVELAND 13, OHIO SINCE 1927

For more details circle **NED-227 D8** on enclosed inquiry slip

increase worker efficiency with Aerovent MANCOOLER FANS

For spot cooling of men and machines, exhausting dust or for general air circulation, these units aid in improving efficiency and production.

Five portable types—cradle, pedestal and 2 or 4 wheeled—each adjustable for 180° discharge. 24" to 48" (portable utility 16" to 36".) 2, 4 or 6 blades. Heavy-duty construction, with welded-steel guards for maximum safety.

write for free bulletin 250

Aerovent FAN CO. INC.
Ash and Blake Sts. Piqua, Ohio

For more details circle **NED-228 D8** on enclosed inquiry slip

GREENLEE No. 797 Hydraulic Power Pumps . . . two speeds

These high-volume, high-pressure pumps feature exclusive two speeds with automatic change-over to fast, high-powered drive. Minimize waiting time for ram to contact work. Readily applied to numerous rams, jacks, presses, and special hydraulic installations where high speed and power are advantages. Change-over to high pressure is automatic at 6,000 psi. With 2-hp a-c motor, delivers 106 cu. in. oil per min at 10,000 psi; with 3-hp a-c motor, 213 cu. in. per min. Electric motors are three phase, 60 cycle, 220/440-v. Also available with 4½-hp air-cooled gasoline engine. Available with 3-way and 4-way valves.

TOOLS FOR CRAFTSMEN **GREENLEE**

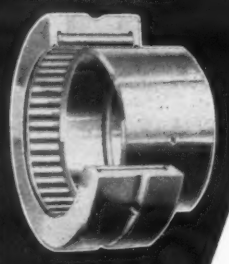
GREENLEE TOOL CO., 1944 Herbert Ave., Rockford, Ill.

For more details circle **NED-229 D8** on enclosed inquiry slip

McGILL MULTIROL®

PRECISION NEEDLE BEARINGS

for supporting heavier loads when space is limited



Multirol SE bearings easily replace plain bearings for increased capacity, precision performance and longer life. Simplified lubrication, reduces maintenance cost. Construction features a full complement of rollers with retaining end shoulders built integral with the outer ring, eliminating loose or welded-in end-washers. MULTIROL SE bearings occupy little radial space for their load carrying capacity . . . and save even more space when outer ring and roller assembly operate directly on a hardened and ground shaft.

Write for helpful bearing Handbook No. H-54-B

McGILL® *precision needle bearings*

McGILL MANUFACTURING CO., INC.
101 N. LAFAYETTE STREET VALPARAISO, INDIANA

▲ For more details circle NED-230 D8 on enclosed inquiry slip ▲

SEND FOR DETAILS ON...

Schrader® AIRLINES, FITTINGS AND FERRULES

Everything you need for planning, fitting and installing your own airline hookups

Make compressed air connections that are neat and efficient, to fit your exact needs. You can plan them and install them yourself. For instance: Use Schrader oil-resistant synthetic rubber hose, cut to your specs with the fittings you need. Or buy the hose and fittings separately to make any combination you want. Seal with safe, air-tight Schrader ferrules.

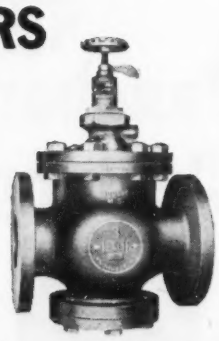
SEND FOR ALL THE TECHNICAL LITERATURE YOU NEED

A. SCHRADER'S SON
Division of
Scovill Manufacturing Company, Incorporated
45½ Vanderbilt Avenue
Brooklyn 38, N.Y.

▲ For more details circle NED-231 D8 on enclosed inquiry slip ▲

NEW really NEW

REGULATORS with SELF-CLEANING PISTONS



• NOW, after 3 years of exhaustive field tests and over 5,000 installations working perfectly, Leslie announces a new development to reduce maintenance time on piston-actuated regulators. Now, all Leslie piston-actuated regulators for temperatures up to 500 F. are equipped with self-cleaning, pressure-sealing pistons in ½" to 6" sizes—at NO EXTRA COST. You can have this feature in your present Leslie regulator, too.

Send for FREE data

LESLIE REGULATORS and CONTROLLERS

LESLIE CO., 227 Grant Avenue, Lyndhurst, New Jersey

▲ For more details circle NED-232 D8 on enclosed inquiry slip ▲

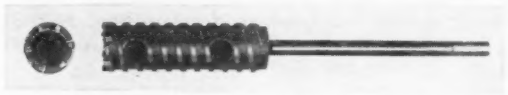
HYDRAULIC BENDER
bends steel stock up to 3/16 x 2 in.

Bending power of 7000 lb is developed by this Multiform No. 6 hydraulic bender, enabling it to bend steel or other materials up to 3/16 x 2 in. Unit is powered by ½-hp, 110-v universal motor. Hydraulic pump is controlled by thumb-operated switch on top of handle. Forward and reverse action and pressure are achieved by depressing or raising handle. Dies are positioned for proper gap by adjustable hand lever at rear. Machine has hardened and ground 12 x 11 x 1-in. surface plate, hardened dovetail die heads, and 1½-in. stroke. Furnished are nine female dovetail dies, six male dovetail dies, and eleven mandrel dies, four of which are formed, seven round. Made by **J. A. Richards Co.**, Pitcher at Myrtle, Kalamazoo, Mich.

▲ For more details circle NED-233 D8 on enclosed inquiry slip ▲

MASONRY CORE DRILLS
cut straight, accurate holes

Because it cuts only on the outside of the hole being drilled, Hercules Core-Cut masonry drills are fast and accurate. A minimum of material is removed. Drills



will perform efficiently, quietly, and smoothly in concrete, brick, slate, stone, and terrazzo at relatively high speeds. Sizes range from ½ to 2 in. Made by **Whitman & Barnes**, 40200 Plymouth Rd., Plymouth, Mich.

▲ For more details circle NED-234 D8 on enclosed inquiry slip ▲

MINIATURE GEAR HEADS
in ratios from 15:1 to 4300:1

Adaptable to standard Mark 7 motors, miniature precision gear heads are offered in gear ratios from 15:1 to 4300:1. Loads up to 50 oz-in. and momentary loads up to 100 oz-in. can be handled. Gear head is mounted to motor by means of an adapter ring shown. Gears are completely enclosed to prevent entry of dirt. Backlash, axial play, and radial play are negligible. Heads can be made with slip clutches, special shafts, and any required ratio by **Daco Instrument Co.**, Dept. NED, Tillary & Prince Streets, Brooklyn 1, N. Y.

▲ For more details circle NED-235 D8 on enclosed inquiry slip ▲

CUT COSTS with FIR PLYWOOD

Fir plywood "bottomless boxes" save $5,000 per year for Keeney Truck Lines, Los Angeles. Switch from aluminum to Exterior plywood sharply lowered maintenance and replacement costs. The lightweight plywood "boxes" have sides, but no bottoms and collapse when not in use. They slip over palletized bricks to hold them securely in position during handling and shipping.

Only plywood with DFPA grade-trademarks is made and tested under industry-wide Douglas Fir Plywood Association quality control program. Look for letters DFPA on the panel.

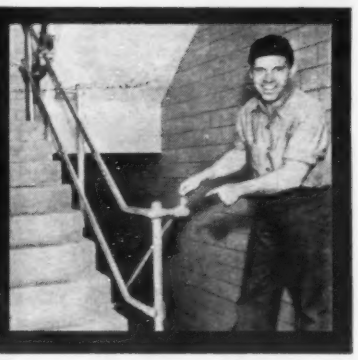
DFPA TESTED QUALITY

Write for New File Folder Catalog

DOUGLAS FIR PLYWOOD ASSOC., DEPT. 181, TACOMA 2, WASH.

▲ For more details circle NED-236 D8 on enclosed inquiry slip ▲

Man! This is a cinch with NU-RAIL SLIP-ON FITTINGS



- Stair Rails
- Machine Guards
- Safety Railings
- Scaffolding
- Portable Guards

WRITE TODAY!

No Threading — No Welding

Any man in your shop or maintenance department can build sturdy safety railings with NU-RAIL slip-on fittings and new or used pipe in standard I.P.S. pipe sizes. A hex key and hacksaw are all he needs, because NU-RAIL fittings *slip on* the pipe, and the unique offset design reduces cutting to a minimum. Made of high-tensile aluminum alloy . . . no painting or plating . . . use for temporary railings, too. 100% pipe salvage.

THE HOLLAENDER MANUFACTURING CO.
3841 Spring Grove Ave., Cincinnati 23, Ohio

▲ For more details circle NED-237 D8 on enclosed inquiry slip ▲

"A cleaner-than-ever hospital—at ¼th the cost"

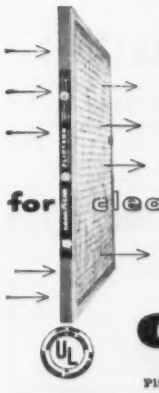
There's no percentage in gambling when you have to keep hospital rooms supplied with fresh, clean air. So this metropolitan infirmary replaced all 84 filters in their air-conditioning system every month and a half. Obviously, that was an expensive proposition.

Then, three busy years ago, they installed PLIOTRON super-filters. That ended their replacement problems. The expense of their every-month-and-a-half installation was wiped off the books.

In fact, the PLIOTRON super-filters have already *cut the three-year filter costs by 75%. They look good for many more years of service.* And the chief engineer reports "a cleaner-than-ever hospital."

How come? PLIOTRON super-filters carry an electrostatic charge that helps them to capture up to 5 times as many of those fine, hardest-to-catch dirt particles. They are depth-loaders—not just surface-loaders. And a periodic quick washing restores their full filter-power—indefinitely.

Wouldn't it pay you, then, to look into this new kind of filter that gives you cleaner air at lower cost? They're designed for use with almost any forced-air heating or air-conditioning system. For details, see your PLIOTRON Distributor—or write: Goodyear, P. O. Box 288, Akron, Ohio.



for cleaner air everywhere-

PLIOTRON AIR FILTER BY GOODYEAR

THE GREATEST NAME IN RUBBER

Pliotron—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio.

▲ For more details circle NED-238 D8 on enclosed inquiry slip ▲

No time for this

SAVE LABOR Handle Barrels THIS Way

OLD WAY

An ordinary truck requires two or three men to pick up and move barrels and drums up to 800 pounds.

SABIN

ONE-MAN BARREL AND DRUM TRUCK

SIMPLE TO OPERATE. Just run truck up to container, hook on at top and pull back on handle to pick up load. **Exclusive Third Wheel Feature** ensures better balance and added safety in moving loads.

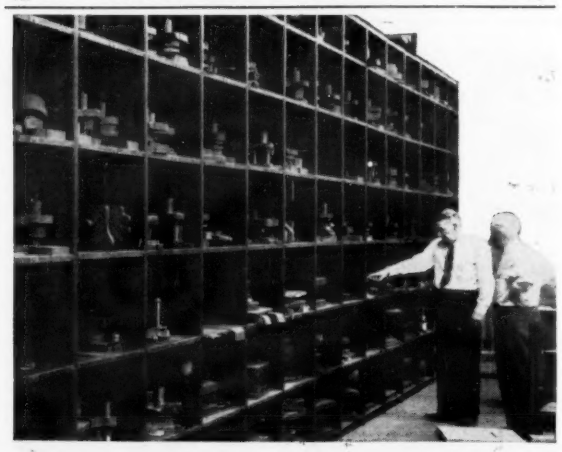
WRITE FOR BULLETIN NO. 48-A

THE SABIN MACHINE CO.
6536 Carnegie Avenue
CLEVELAND 8, OHIO

MODERN WAY

With a Sabin Type "L-3" Truck, ONE MAN does the same job with ease. You save time and cost of helpers.

For more details circle NED-240 D8 on enclosed inquiry slip

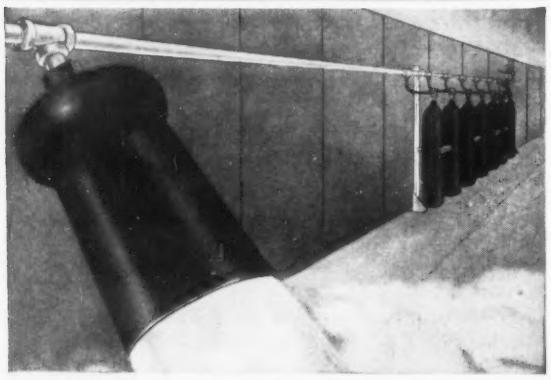


REPUBLIC WEDGE-LOCK STEEL SHELVING is designed to Handle the Heavyweights!

It's the world's strongest! Capable of exceptionally high stacking. Patented Wedge-Lock construction means that the heavier the load, the tighter the grip. Wedge-Lock includes all three prime essentials of good shelving: (1) A post that will not buckle, (2) A reinforced shelf that does not sag, (3) A concealed sway-proof joint. Unlimited shelf arrangements. Let Republic Storage Engineering specialists help plan. Write today.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

For more details circle NED-241 D8 on enclosed inquiry slip



24-HOUR-A-DAY AUTOMATIC FIRE PROTECTION!

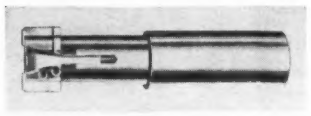
Get the finest in fully-automatic fire protection...install a Kidde Carbon Dioxide Extinguishing System! Completely protects any hazard large or small, saves lives, saves equipment. Get full details...send coupon or write today!

Walter Kidde & Company, Inc.
424 Main St., Belleville 9, New Jersey
Please send me your 1-19 catalog plus full information on your automatic carbon dioxide systems.

NAME _____
ADDRESS _____
CITY _____ STATE _____

For more details circle NED-242 D8 on enclosed inquiry slip

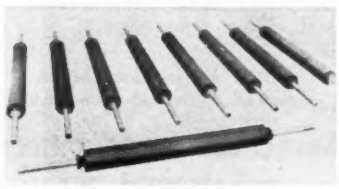
ADJUSTABLE BORING TOOL for cutting 1¼ to 4½-in. holes



Blades of this boring tool are expanded by a tapered socket head screw from the bar end, permitting adjustment without removing blades or removing bar from setup. One full rotation expands cutters 0.020 in. on hole diameter. Both blades are supported by V-tongues riding in V-grooves. Rigidity of tool enables it to perform heavy cuts for roughing operations. Standard bar sizes cover 1¼ to 4½-in. hole diameters. Other sizes are available on request. Made by **Robert H. Clark Co.**, Dept. 250, 9330 Santa Monica Blvd., Beverly Hills, Calif.

For more details circle NED-243 D8 on enclosed inquiry slip

PLASTIC MILL ROLL resists corrosion, high temperature

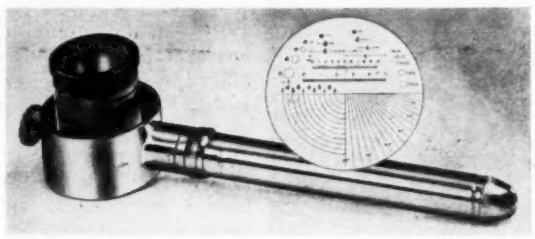


Made from a thermosetting resin, the corrosion - resistant Duracor E high temperature mill roll is bonded to a stainless steel shaft. It is designed for processing corrosive materials in the textile, paper, and similar industries where abrasion and temperatures to 250° F are important factors. Roll can also be modified for use in metal finishing. Rolls can be produced to meet specific requirements for hardness, flexibility, and temperature range with virtually any surface smoothness. Maintenance and repair can be performed without removing the roll from the machine. Made by **Ceilcote Co.**, 4838 Ridge Rd., Cleveland 9, Ohio.

For more details circle NED-244 D8 on enclosed inquiry slip

POCKET COMPARATOR 6-power unit has illuminator

Diameters, radii, and angles on small parts are quickly measured with this 6-power pocket comparator now available with battery-powered illuminator. Comparator has etched glass reticle which gives linear dimensions in both inches and millimeters. Illuminator lights both reticle and work under examination. Comparator is easily removed from illuminator. Price is $27.45. Made by **Edmund Scientific Co.**, 180 E. Gloucester Pike, Barrington 25, N. J.



For more details circle NED-245 D8 on enclosed inquiry slip

Important News FROM MEYERCORD

CHECK AND PIN THIS AD TO YOUR LETTERHEAD AND WE'LL SUPPLY THE FACTS

PLANT MAINTENANCE MARKING KIT
for Marking Water, Heating and Air Conditioning Systems

The modern, low cost solution to plant equipment identification . . . now in use by leading manufacturers and service organizations. Provides standardized identification, absolute legibility, and permanency at remarkably low cost. Kit includes 474 signs assorted over 59 operational subjects. Easily applied in seconds. Check for literature.

LUBRI-CAL MARKING KIT
Take the Guesswork Out of Your Lubrication

An important preventive maintenance program. The *Lubri-Cal Marking Kit* consists of the proper frequency of numerals, letters and instruction nameplates for identifying lubrication points and required lubricants on plant, production and operating equipment. *Lubri-Cals* are permanent, tough, oil-resistant transfers; easily adaptable to any lubrication system.

MEYERCORD DECAL MARKING METHOD
Decal product markings for "difficult surfaces"

Heat, abrasion, weather and many of the new industrial surfaces are deadly enemies of most product markings. But not to new, improved Meyercord Decal Markings—types C, G, J and H (heat resistant). One of these new markings will almost certainly solve the problem. For exact recommendations. Ask for new brochure.

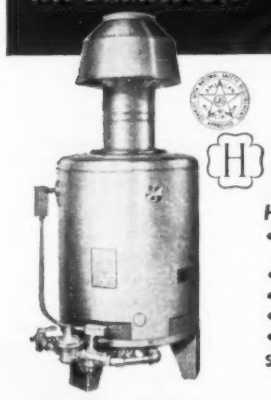
the MEYERCORD co.
Dept. T-316, 5323 West Lake St., Chicago 44, Illinois

For more details circle NED-246 D8 on enclosed inquiry slip

Do You Have A Hot Water Problem?

FREE Burkay HANDBOOK

GIVES YOU COMPLETE INFORMATION



HELPFUL FACTS
- Hot Water Requirements for Various Needs
- Sizing Tables
- Installation Diagrams
- Equipment Specifications
- Installation Instructions

Send for your free copy of handbook

MODEL 718/INPUT: 420,000 Btu/hr.
TYPICAL
Burkay gas-fired
Industrial Water Heater

Through research to a better way
A.O.Smith CORPORATION
Permaglas Division, Dept. NED-458
Kankakee, Illinois

For more details circle NED-247 D8 on enclosed inquiry slip

the OLIVER Diaphragm Slurry Pump

Yes . . . the link-free, leak-free O.D.S. with no stuffing box and no seals is ideally suited to tough pumping jobs involving abrasive, corrosive and temperature conditions. For complete information, write Dorr-Oliver Inc., Stamford, Connecticut.

DORR-OLIVER INCORPORATED
WORLD-WIDE RESEARCH • ENGINEERING • EQUIPMENT
STAMFORD • CONNECTICUT • U.S.A.

For more details circle NED-248 D8 on enclosed inquiry slip

Clean surfaces quickly with Pangborn Blast Cleaning Machine

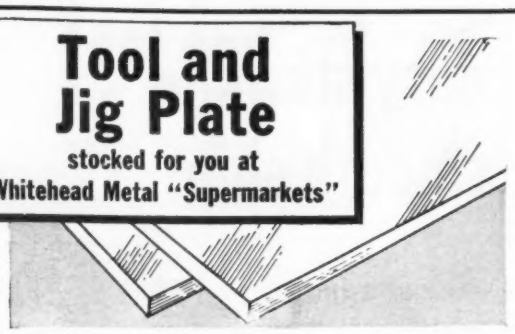
Use Pangborn Blast Cleaning Machines for fast, economical maintenance of bridges, tanks, buildings, hulls, structural metal, sheets and plates. Removes scale, rust, paint, dirt; leaves *toothed* surface ready for painting. Portable or stationary types. Write to: PANGBORN CORP., 2400 Pangborn Blvd., Hagerstown, Md. *Manufacturers of Blast Cleaning and Dust Control Equipment.*

Pangborn
BLAST CLEANS CHEAPER

For more details circle NED-249 D8 on enclosed inquiry slip

Tool and Jig Plate

stocked for you at Whitehead Metal "Supermarkets"



specifically manufactured for tool and jig applications

Developed especially by Alcoa to meet the exacting requirements of jig and fixture making, they are particularly useful in making prototype tools prior to production. They can be used as dies in hydro-press stretch forming and in forming devices where the forming load is not of an impact nature.

These exceptionally machinable plates are stress-relieved to assure dimensional stability during machining operations. They are free from porosity, inclusions and blows incurred during production.

You can get tool and jig plates in standard sizes up to 48" x 96" and from ⅜" to 4" thick, or cut to meet your own specific requirements.

Write for the special bulletin which tells where and how you can use these precision work savers.

WHITEHEAD
METAL PRODUCTS COMPANY, INC.
303 WEST 10TH STREET • NEW YORK 14, N. Y.

For more details circle NED-250 D8 on enclosed inquiry slip

Welding and Brazing Alloys

stocked for you at Whitehead Metal "Supermarkets"

wide variety makes shopping easy

With the tremendous range of metals and alloys now being fabricated, welding today has become somewhat of an art. It's not an easy task to select and obtain the proper materials for the job. That's where Whitehead comes in.

Whitehead has a staff of technicians ready to advise you not only on the proper material to use, but also on the latest techniques employed in modern welding. And, your nearest Whitehead Metal "Supermarket" stocks a wide range of welding and brazing materials. From NiRod and other Inco-Nickel Alloys through Aluminum, Bronze, Copper, Silver, Stainless Steel and a host of other materials, you'll find exactly what you need at Whitehead.

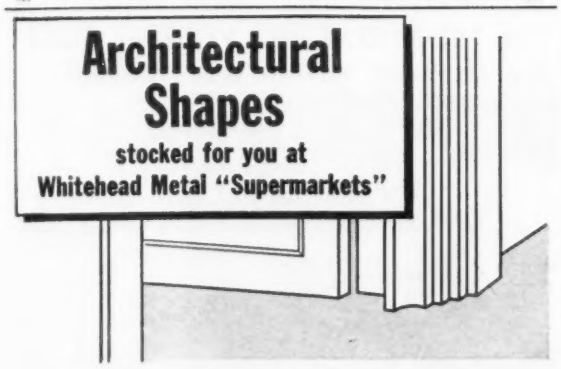
A full library of welding information is yours for the asking. When you write, it would help us if you outlined your specific field of interest.

WHITEHEAD
METAL PRODUCTS COMPANY, INC.
303 WEST 10TH STREET • NEW YORK 14, N. Y.

For more details circle NED-251 D8 on enclosed inquiry slip

Architectural Shapes

stocked for you at Whitehead Metal "Supermarkets"



time-saving, long-lasting, easy to order

Extruded aluminum architectural shapes have simplified many structural and design problems. Their unusual contour designs and decorative beauty add much to today's modern interiors. Your nearby Whitehead Metal "Supermarket" is a center for these shapes, providing a one source outlet of many different architectural shapes, as well as a standard line of angles and zees.

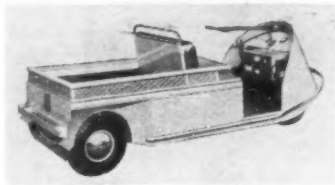
Mouldings, copings, and gravel stops, Pilasters, door sills and trim, are but a few of the many architectural shapes interpreted in unusual design through Alcoa Extrusions.

These shapes are illustrated and identified by die numbers for simplified ordering in the special Whitehead booklet titled "Shapes." Write for your copy.

WHITEHEAD
METAL PRODUCTS COMPANY, INC.
303 WEST 10TH STREET • NEW YORK 14, N. Y.

For more details circle NED-252 D8 on enclosed inquiry slip

ELECTRIC CAR
operates on 18 or 36 v or both



Low ratio speeds from 1 to 8 mph and high ratio speeds up to 25 mph are attainable with the Dual-Ratio Express, an electric car which reportedly can be operated for less than 2 cents per day. It is suited for industrial plant and warehouse transportation. It has two complete sets of batteries which enable it to operate on 18 v, 36 v, or both, as required. A spring reel type charger unit permits recharging when idle from any 110-v outlet. A Lub-O-Matic drive is incorporated. Made by **Laher Spring & Tire Corp.**, Dept. E-72, 26th & Magnolia Street, Oakland, Calif.

For more details circle NED-253 D8 on enclosed inquiry slip

DRUM HANDLER
lifts, transports 1000-lb drums

One man using this CeCOR Model 66H drum handler can lift and transport drums weighing up to 1000 lb. Standard 30 or 55-gal drums are gripped by the chime in a vise hold, then raised to carrying or drain stand height by hydraulic lift. Open top drums containing liquid materials can be transported with or without lid in place. Maximum lift with 55-gal drum is 16 in. Clamp adjusts to various drum heights and chime thicknesses. Handler rolls on two 12-in. rubber-tired, roller bearing wheels and one 8-in. rubber-tired, ball bearing caster. Made by **Coolant Equipment Corp.**, Dept. D, S. Main Street, Verona, Wis.

For more details circle NED-254 D8 on enclosed inquiry slip

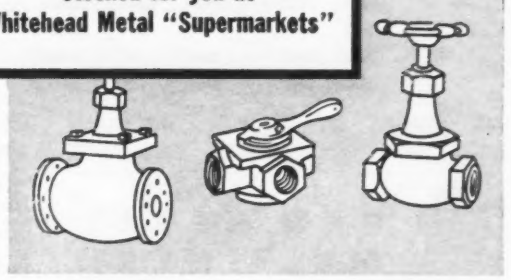
TRACTOR TYPE BUCKET LIFT
9-hp model exerts 1300-lb pull

Ground - hugging compactness and low center of gravity are featured by Speedcat Model R-9 tractor type bucket lift. The 1250-lb, 9-hp unit measures only 94 in. long overall and 41 in. wide. Two hydraulic cylinders "pull" the load off the ground to maximum height of 21 in. Machine can exert a draw-bar pull up to 1300 lb. Made by **Mead Specialties Co.**, Dept. L-115, 4114 N. Knox Ave., Chicago 41, Ill.

For more details circle NED-255 D8 on enclosed inquiry slip

Valves

stocked for you at Whitehead Metal "Supermarkets"



in five different corrosion-resistant metals (plastics, too)

Aluminum, inconel, monel, nickel and stainless steel valves are all on hand at Whitehead, as well as such newer materials as Kralastic. You only need to make one stop, because Whitehead stocks all types of valves too, from needle to gate and globe—all bearing well known quality names like Powell, Republic and Hills-McCanna. Our sales engineers give you straight from the shoulder talk, with no favoritism for one make of valve or one type of material, only what is best for your particular process. Write for your valve literature selection today, and specify the alloy or material in which you're interested.

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METAL PRODUCTS COMPANY, INC.
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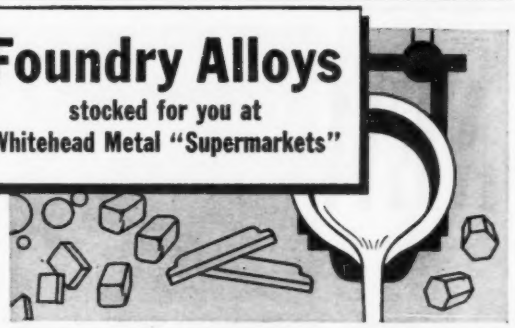
For more details circle NED-257 D8 on enclosed inquiry slip

Foundry Alloys

stocked for you at Whitehead Metal "Supermarkets"



the most complete warehouse selection in industry available in handfuls to carloads

Great strides have been made, in recent years, in upgrading the properties of metals. By the proper addition of alloying elements, qualities of corrosion resistance, hardness, toughness and higher tensile strength have been greatly improved in irons, steels and bronzes. This specialized field requires specialized products. Your Whitehead "Supermarket" stocks over 100 different foundry alloys—the largest warehouse selection in the industry—including the products of such leading producers as The International Nickel Co., Vanadium Corporation of America, Shieldalloy, and many others. Whitehead's foundry staff is ready and willing to work with you in choosing the proper alloy material for your casting problems.

A new brochure "Whitehead Foundry Alloys" is yours for the asking. Write for your copy today.

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METAL PRODUCTS COMPANY, INC.
303 WEST 10TH STREET • NEW YORK 14, N. Y.

For more details circle NED-258 D8 on enclosed inquiry slip

Rod, Sheet and Tube

stocked for you at Whitehead Metal "Supermarkets"

just one shopping stop and you get delivery of any corrosion resistant metal in the form and quantity tailored to your fabrication needs

Read off your shopping list: rods—you can get them round, hexagonal, rectangular, square . . . sheets—you can have hot or cold rolled in a host of alloys . . . tubes and pipes—come round, rectangular or square. Everything stocked in a wide variety of sizes for you to select from . . . Just look at some of the alloys: aluminum, brass, copper, phosphor bronze, nickel silver, silicon bronze, leaded brass, nickel, inconel. They're products of such leading manufacturers as: Alcoa, Inco, Anaconda, Superior or Trent Tube, Lukens. No matter what type of corrosion resistant material you need (plastics, too) Whitehead has the right materials for you. And, if you're uncertain as to just which metal is best for you to use, Whitehead engineers will be glad to work with you to get the most out of what you buy.

WHITEHEAD
METAL PRODUCTS COMPANY, INC.

303 West 10th Street • New York 14, N. Y.

Other Offices and Warehouses:
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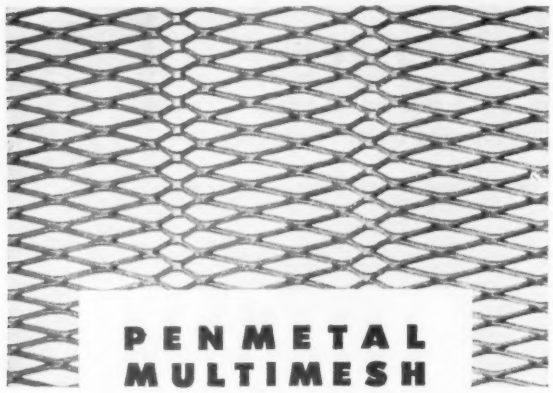
CAMBRIDGE, MASS. • SYRACUSE • BALTIMORE
ROCHESTER • WINDSOR, CONN.

For more details circle NED-256 D8 on enclosed inquiry slip



PENMETAL MULTIMESH

new look in expanded metal

MULTIMESH *Crystal* is a new expanded-metal mesh, in which there are three diamond sizes recurring in a pattern throughout the area of a sheet. This is a departure from customary patterns in which openings are uniform.

Used as an integral part of a machine or appliance – wherever perforated metals, woven wire, decorative louvers or small-mesh expanded metal have been applicable in the past – these unique patterns provide a distinctly different appearance.

Write for new leaflet 516-EM.

PENN METAL COMPANY, INC.
General Sales Office: 40 Central St., Boston 9, Mass.
Plant: Parkersburg, W. Va. PM-164

▲ For more details circle NED-259 D8 on enclosed inquiry slip ▲

NEW design and performance opportunities

when you replace ordinary bushings with HARTFORD

VERSA-TWIN*

custom bearings

When designing a new product, or improving an old one, consider the advantages in both design and performance that Hartford's *Versa-Twin* custom designed bearings offer in place of ordinary bushings of bronze, powdered metal, nylon or plastic. With *Versa-Twin* you get these advantages—

- Higher performance and longer life
- Contribute to miniaturization where desirable
- Improve alignment—lower starting torque
- Wide choice of materials—including corrosion resistant
- Can be designed to replace ordinary bushings on existing equipment in the field
- Practically no lubricant maintenance
- Design almost unlimited as shown by the typical *Versa-Twins* illustrated
- Engineering assistance in application

For complete information write for *Versa-Twin* Technical Literature that includes case histories of applications.

*Versa-Twin is a double-row ball bearing—made to your specific requirements—in which parts of your end product can form the inner and outer races.

Hartford PRECISION BALLS • BEARINGS

Hartford Steel Ball Co., Inc., 83 Jefferson Ave., West Hartford 6, Conn.

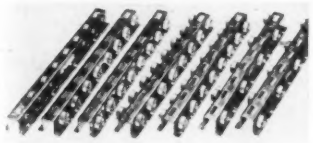
▲ For more details circle NED-260 D8 on enclosed inquiry slip ▲

PNEUMATIC FEED TABLE
locking mechanism is mechanical

The 14-in. diameter Turretable, an air-powered indexing table, forms a sturdy base for large dial plates as it rests on a 12½-in. diameter ring with almost 19 sq in. of lubricated bearing surface. The table remains locked at all times, except when actually moving to the next station. Locking mechanism is mechanical and independent of air supply. Standard Turretable has 4, 6, or 12 stations, but 3, 8, or 24 stations are available on special order. Base size is 17 x 19½ in. and height to top of dial is 3½ in. Cylinder and track assembly length for standard model is 32 in. Twelve-station model operates at over 3100 indexes per hour. Made by **Mead Specialties Co.**, Dept. TT-P40, 4114 N. Knox Ave., Chicago 41, Ill.

▲ For more details circle NED-261 D8 on enclosed inquiry slip ▲

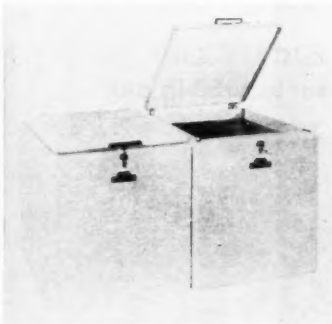
WHEELRAIL CONVEYORS
offered in 5 and 10-ft lengths



Addition of WR series to Wheelrail line makes available a combination of gravity conveyors for storage rack use. WR models are offered in 5 and 10-ft lengths with high, low, or center wheel setting. Spacing is usually on 3 or 6-in. centers. Frame is prepunched to allow change in spacing. The 1 x ⅝-in. plated steel wheels are permanently lubricated. Made by **Sage Equipment Co.**, 28 Essex St., Buffalo 13, N. Y.

▲ For more details circle NED-262 D8 on enclosed inquiry slip ▲

INDUSTRIAL FREEZER
for testing, research, cold treating



Suited for laboratory control, industrial research, and production, this low temperature freezer can be used for cold treating, stabilizing, and environmental testing. Measuring 34 x 28 x 38 in. overall, it withstands temperature changes from −120° F to 300° F. Standard automatic controls indicate from −120° to 150° F, with optional controls for higher temperatures available. Controls conform to JIC requirements. Made by **Alpha Electric Refrigeration Co.**, 1117 E. Seven Mile Rd., Detroit 3, Mich.

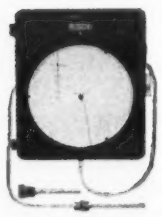
▲ For more details circle NED-263 D8 on enclosed inquiry slip ▲

PALMER
MERCURY ACTUATED

TEMPERATURE INDICATING INSTRUMENTS

4½" DIAL THERMOMETERS

Made in 3 types to suit any requirements. Rigid stem, wall or flush mounted, 11 inches of scale reading. Interchangeable with standard industrial separable sockets. Stem can be placed at any angle and case can be rotated to any readable position.



RECORDING THERMOMETERS

Twelve inch die-cast aluminum case with black or white wrinkle or satin finish. Single or multiple pen construction. Electric or spring wound clock, 24 hour or 7 Day Revolution. Flexible Armor and bulb of stainless steel. Ranges—40 + 950°F. or Equivalent in °C.

INDUSTRIAL THERMOMETERS

Red-Reading Mercury—Extruded brass case — chrome finish. Ranges —40 + 950°F or Equivalent in °C.

RED-READING MERCURY LABORATORY THERMOMETERS

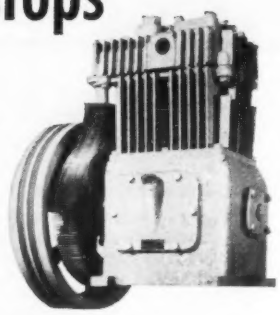
Thoroughly annealed for permanent accuracy. Complete line A. S. T. M. and fractional division types.

WRITE FOR CATALOG INFORMATION

PALMER THERMOMETERS, INC., Cincinnati 12, Ohio

▲ For more details circle NED-264 D8 on enclosed inquiry slip ▲

easy starts smooth stops



PROVIDE LONGER SERVICE FROM

Quincy COMPRESSORS

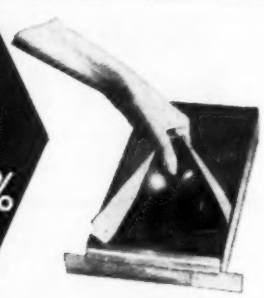
Quincy's automatic loadless starting is the simplest yet — a foolproof hydraulic system tied right in with Safe-Q-Lube —the pressure lubrication that also unloads compressor if oil pressure fails for *any* reason. Loadless starting prolongs belt and motor life — adds to Quincy's over-all economy. Models to 90 C.F.M. — mountings for every need.

SEND FOR CATALOG

QUINCY COMPRESSOR CO., Dept. NED-458, Quincy, Illinois

▲ For more details circle NED-265 D8 on enclosed inquiry slip ▲

REDUCE CLEAN-UP TIME 50%



a thin film of

RELEASE-COTE

on any surface sheds residue glues, adhesives, plastic coatings, inks, paints . . . like magic!

- Machines last longer because RELEASE-COTE repels coating materials, eliminating build-ups that tax motors and moving parts.
- Operators love RELEASE-COTE's gentleness to their hands. A little rubbed on the hands prevents coating material from sticking to the skin and nails.

Available in qt., gal., 5 gal. and tube.

Write for literature.

ESTABLISHED IN 1893 POTDEVIN

Distributed by
POTDEVIN MACHINE CO.
273 North Street, Teterboro, N. J.
Designers and manufacturers of equipment for gluing and labeling, coating, laminating, bag making and printing.

▲ For more details circle NED-266 D8 on enclosed inquiry slip ▲

"WE PREFER *CLAUSING VERTICAL MILLS* FOR ALL WORK WITHIN THEIR CAPACITIES!"

"Our men prefer Clausing vertical mills for all work within their ½" cutter capacity. They're certainly as accurate as larger machines, and they are far more efficient . . . work set-up is easier, they're easier to get around, and they're far more sensitive."

The Progressive Machine and Tool Company

The new CLAUSING VERTICAL MILLER is the most accurate machine of its type. The spindle head can be swiveled in a vertical plane and set at any angle, and the turret rotated in a horizontal plane making it possible to mill, drill, bore, ream and shape at all angles with one work set-up.

CONDENSED SPECIFICATIONS

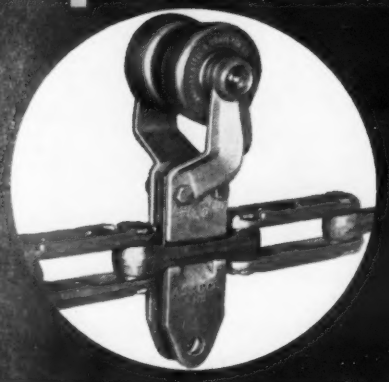
Size of Table	6" x 24"
Longitudinal Table Travel	15"
Transverse Table Travel	5"
Vertical Table Travel	11⅝"
Maximum Distance Spindle to Column	8¾"
Quill Travel	3"

Write For Literature

CLAUSING DIVISION ATLAS PRESS COMPANY
4-113 N. Pitcher St., Kalamazoo, Michigan

▲ For more details circle NED-267 D8 on enclosed inquiry slip ▲

dependable



ANCHOR CONVEYOR TROLLEYS

Engineered for longer life and greater economy, ANCHOR Improved Conveyor trolleys are backed by 30 years of conveyor experience.

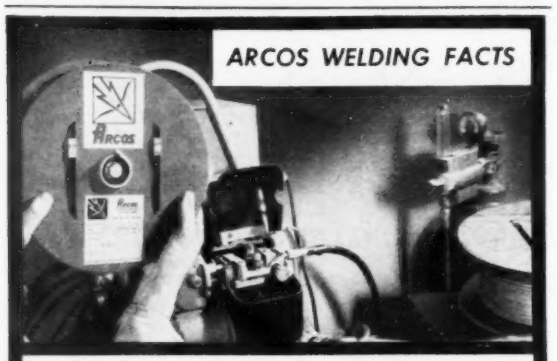
These trolleys are interchangeable with other leading makes, have protected lubrication fittings, baffle type grease seals, hardened and ground races, and caged ball bearings. Write for Bulletin 56-2.

ANCHOR STEEL & CONVEYOR CO.

6906 KINGSLEY AVE. DEARBORN, MICHIGAN

For more details circle NED-268 D8 on enclosed inquiry slip

ARCOS WELDING FACTS



Save Time and Money on Stainless Semi or Automatic Inert Gas Arc Welding

Arcos Stainless Spooled Wire helps end a host of costly time-consuming welding problems. Its clean, uniform finish gives better conductivity and arc stability. Level-layer-wound reels feed smooth and easy. And Arcos quality—a byword in the industry—leads to improved performance . . . sounder, more uniform welds.

FREE STAINLESS APPLICATION CHART

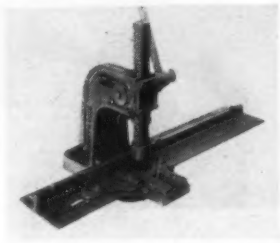
Send today for this chart on Stainless Welding Rods and Bare Electrodes. Complete data including typical analysis information.

Arcos Corporation, 1500 S. 50th St., Philadelphia 43, Pa.

ARCOS | Filler Metal Specialists

For more details circle NED-269 D8 on enclosed inquiry slip

SHEET METAL FASTENING DEVICE forms button and slot lock-joint



This But-N-Hold Machine forms a rigid button and slot lock-joint in sheet metal up to 18 gage. One man can turn out 1000 ft or more of vane runners in 8 hours, making possible fast assembly of ventilating hoods, structural members, and other products. Simple adjustments provide for center spacing and edge alignment, close spacing of button depressions, and formation of slot at any angle to the other buttons and slots. Made by **Bar-Brook Mfg. Co.**, Box 6638-ED, Shreveport, La.

For more details circle NED-271 D8 on enclosed inquiry slip

FRACTIONAL HORSEPOWER MOTORS finned for high ambient operation

Cooling body fins on this line of subfractional horsepower, alternating current motors permit operation under high ambient temperature conditions. Standard frames are encased in a heat-radiating aluminum shell, exterior of which is ribbed with deep-troughed cooling fins. Integral mounting pads, spaced 180 degrees apart, provide for face or body mounting. Shell withstands shock and vibrational stresses. Made by **Air-Marine Motors**, Dept. N200, 369 Bayview Ave., Amityville, N. Y.

For more details circle NED-272 D8 on enclosed inquiry slip

ULTRASONIC PARTS CLEANER accommodates parts 10 in. long

Designed for simplicity of operation, Model 500 A 53-lb stainless steel Ultracleaner provides both an ultrasonic cleaning chamber and a rinse basin. Unit will clean small parts and assemblies using detergents, alkaline, and acid solutions, chlorinated solvents, and other standard cleaning vehicles. Washer element measures 11 x 6 in. at the top and is 6½ in. deep. It will accommodate parts up to 10 in. long. On-off switches and one-dial tuning are featured. A plug-in is provided for a second ultrasonic tank to operate concurrently or separately with the Model 500 A. Made by **Lawrence Mfg. Corp.**, Evans Terminal, N. Broad Street, Hillside, N. J.

For more details circle NED-273 D8 on enclosed inquiry slip

You can do it better, faster, neater with a HANSEN High Speed Automatic Tacker . . . and you won't "smack" your fingers. For the many tacking jobs around the house and shop, there is nothing like a HANSEN Tacker.

There is no tacking job too difficult for a HANSEN . . . the ORIGINAL ONE-HAND TACKER! Makes an ideal gift for Dad.

• INSULATION • DISPLAYS • SCREENS • LABELING • DO-IT-YOURSELF • SHELVING • UPHOLSTERING . . . and innumerable other jobs.

T 8571

A. L. HANSEN MFG. CO.
5164 Ravenswood Ave. Chicago 40, Ill.

For more details circle NED-274 D8 on enclosed inquiry slip

Most widely-used hand pallet truck in America at NEW LOW PRICES!

MODEL L2P
Capacity 2,000 lbs.

RAYMOND® Lightweight

HYDRAULIC PALLET TRUCK

More RAYMOND Lightweight Hydraulic Hand Pallet Trucks are purchased today than any other and because of this high volume our production costs have lowered . . . and now we are passing the SAVINGS on to YOU!

Why are so many RAYMOND Trucks being purchased? Because this Hand Pallet Truck does so many jobs so well . . . ruggedly built to withstand years of use and abuse. Lightweight to lessen operator fatigue, easy to maneuver and pull. Patented booster rolls provide effortless pallet entry. Convenient foot pedals lift and lower your load. Completely hydraulic for dependable operation. Includes aluminum alloy construction, husky one-piece welded steel frame, safe dual-purpose brake, 270° turning radius.

MAIL COUPON for full details!

The RAYMOND CORPORATION
4199 Madison St., Greene, N.Y.

☐ Send bulletin on Lightweight Hydraulic Pallet Truck.
☐ Please have a RAYMOND representative call.

NAME TITLE
COMPANY
STREET
CITY STATE

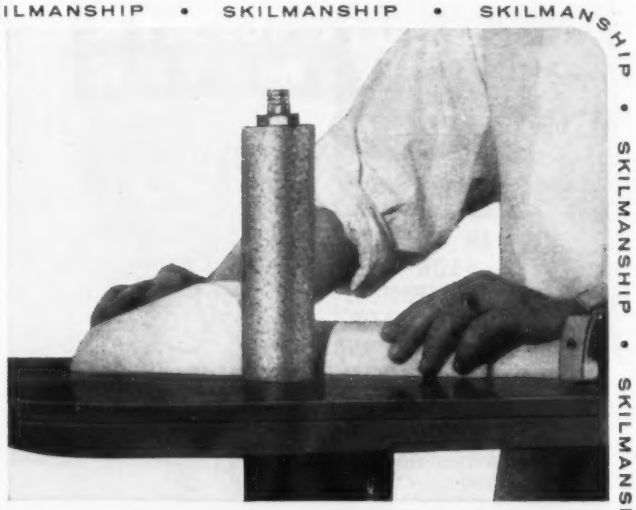
For more details circle NED-275 D8 on enclosed inquiry slip

SKILMANSHIP • SKILMANSHIP • SKILMANSHIP • SKILMANSHIP • SKILMANSHIP

Revolutionary!

PERMA-GRIT SLEEVES outlast sandpaper 100 to 1

New, amazing, revolutionary Tungsten Carbide sleeves outlast sandpaper sleeves 100 to 1. And sand twice as fast, too. They're made of rugged steel tubes with a surface of Tungsten Carbide grit. Won't dish out. No loading. Easily cleaned. Transfer heat quickly. Sizes from ¼" to 3" diameters. Rods also available in ⅛", 1/16" and ¼". Write now for literature and samples.



SKIL

Made only by SKIL Corporation, manufacturers of famous SKIL and SKILSAW products, 5033 N. Elston Ave., Chicago 30, Ill. In Canada: 3601 Dundas St. West, Toronto 9, Ontario.

OTHER PERMA-GRIT PRODUCTS FOR INDUSTRY

Perma Grit Wheel—Actually 5 tools in 1. Saws, sands, shapes, dadoes and ploughs. Coarse grit on one side and edge, medium on other side.

Perma-Grit Shoe saves frequent changing of paper sheets on orbital sanders. Works exceptionally well on hard woods. Easily cleaned.

SKILMANSHIP • SKILMANSHIP • SKILMANSHIP • SKILMANSHIP • SKILMANSHIP

For more details circle NED-270 D8 on enclosed inquiry slip

KEEP MACHINES RUNNING
...reduce maintenance costs,

with DEUBLIN ROTATING UNIONS

¾" Size Union Illustrated

for water, steam and air service!

Here is a compact, efficient rotating union—

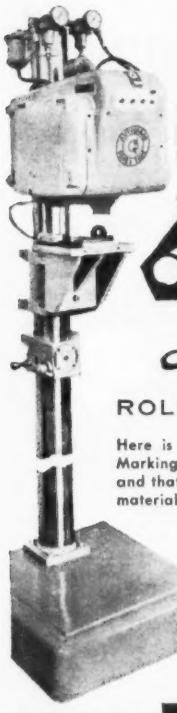
- ★ LEAKPROOF
- ★ CORROSION PROOF
- ★ EASY TO SERVICE
- ★ VIRTUALLY FRICTIONLESS
- ★ PRECISION BUILT FOR LONGER LIFE
- ★ INTERCHANGEABLE with any other rotating union
- ★ VERSATILE—For Monoflow or Duoflow operation, available in ½", ¾", 1", 1¼" and 1½" sizes
- ★ MINIMUM TORQUE makes it ideal for high speed applications

See how this dependable, new rotating joint can reduce inventory of replacement parts because of Deublin's standardization of sizes. Keep "shut downs" from wrecking your production schedules. Pays for itself many times over.

Write today for full details and prices.

DEUBLIN COMPANY
1151 Waukegan Road
Glenview, Ill. (Chicago Suburb)

▲ For more details circle NED-276 D8 on enclosed inquiry slip ▲



Now! MARK
FLAT, ROUND, CONTOURED SURFACES *at* HIGH SPEEDS!

MARKS ANY SHAPE

WITH
Automark
(MODEL HRMA)
ROLL MARKING MACHINE

Here is speed, versatility and adaptability in a Marking Machine that operates by air pressure and that is controlled electrically. Marks any shape material... round, flat or contoured.

CUTS PRODUCTION COSTS...
GREATLY INCREASES OUTPUT

The Automark operates at speeds up to 6,000 or more 1-inch strokes per hour, or 1,400 strokes per hour on stroke of ram and die slide combination. Think of all the saving in time and money with Automarks in your shop!

AUTOMATIC FEEDS *and* FIXTURES MAY BE SUPPLIED...

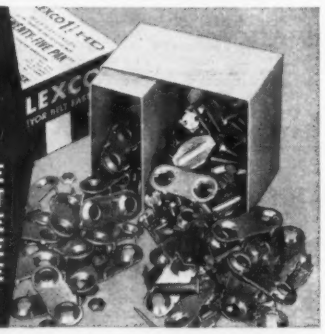
SEND FOR BULLETIN ▶ DEFIANCE MACHINE & TOOL CO.
1922 S. VANDEVENTER Dept. QD ST. LOUIS 10, MO.

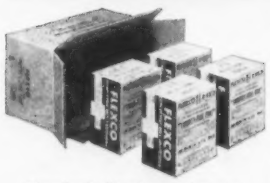
▲ For more details circle NED-277 D8 on enclosed inquiry slip ▲

NEW FOR YOUR CONVENIENCE...

FLEXCO "25-PAK"

TWENTY-FIVE COMPLETE SETS OF FLEXCO HD BELT FASTENERS NOW AVAILABLE IN ONE EASY-TO-HANDLE ECONOMY BULK PACKAGE





Standard shipping carton contains four "25-PAK" boxes of one size fastener. Keep a supply of "25-PAKS" on hand . . . easy to store and inventory. Sturdy boxes and shipping cartons have many uses!

There's no need now to carry several 10-set boxes to the job—every "25-PAK" box contains 25 complete sets of FLEXCO fasteners (bottom plates, top plates, clips, nuts and bolts) . . . enough FLEXCO fasteners to join common belt widths (for example: one "25-PAK", size 1½E, will join a 36" belt).

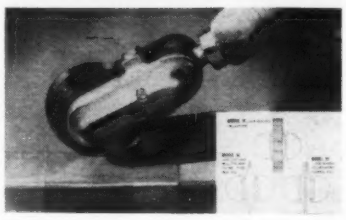
Our savings from bulk-packaging are passed on to you. Label on each "25-PAK" box has chart indicating the number of FLEXCO HD fasteners to use for given belt widths.

Ask your FLEXCO distributor or write to us for additional information.

Flexible STEEL LACING COMPANY
4664 LEXINGTON ST. • CHICAGO 44, ILL.

▲ For more details circle NED-278 D8 on enclosed inquiry slip ▲

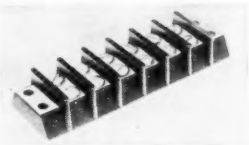
PLASTIC FILM HEAT SEALER
improved with Teflon-coated wheel



Where large production sealing machines are impractical, polyethylene, pliofilm and other plastic films can be rapidly sealed with this improved Sealine hand sealer. Teflon coating on heat-carrying roller of Models 50 and 52 makes it unnecessary to use an intermediate material or liquid. Temperature is adjustable from 200 to 450° F on the 50-w heating element. Sealer weighs less than 1 lb and has a safety rest. Models are available for 220 and 110-v ac or dc operation. Cost is $23.90. Made by **Sealine Mfg. Corp.**, 4718 W. Lake St., Chicago 44, Ill.

▲ For more details circle NED-279 D8 on enclosed inquiry slip ▲

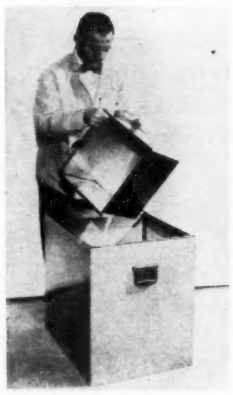
TERMINAL BOARDS
solid type has insulated back



Need for a separate insulating strip between screw end and ground is eliminated by the design of the Gen-Pro molded terminal boards with a solid, insulated back. Also featured are high barriers, molded-in conductors, and molded-in insert around mounting holes for sectional strength. Made by **General Products Corp.**, 26 Rittenhouse Place, Ardmore, Pa.

▲ For more details circle NED-280 D8 on enclosed inquiry slip ▲

ULTRASONIC CLEANER
tank sizes from 6 qt to 50 gal



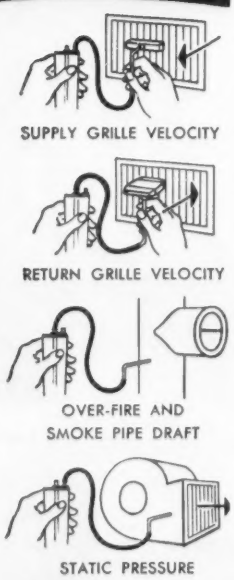
Transducer elements built into this line of ultrasonic processing equipment are constructed mainly of solid metal sections and are joined to stainless steel radiating surfaces by welded studs, making them virtually indestructible. Self-contained, stainless steel Sonitanks range in size from 6 qt to 50 gal. The 30-gal size is shown. Transducers have from 100 to 300 sq in. of radiating surface. Both Sonitanks and Sonicelis are also custom-made and are available with pumps, filters, heaters, controls, and rinse tanks. Equipment is suited for production cleaning and degreasing of a wide range of products. Buffing compounds, oils, waxes, paint films, inks, fluxes, lint, and light oxides can be removed. Made by **General Ultrasonics Co.**, Dept. TD, 67 Mulberry St., Hartford 3, Conn.

▲ For more details circle NED-281 D8 on enclosed inquiry slip ▲

NEW NO. 460 AIR METER

BY *Dwyer*

NOW
AN ALL-PURPOSE LOW-COST INSTRUMENT FOR STATIC PRESSURE AND AIR VELOCITY MEASUREMENTS



High *and* low ranges give direct velocity readings from 260 to 4000 fpm., static pressure readings from .005 to 1.0 inches of water. A complete instrument kit with every accessory needed for adjusting and balancing air conditioning, heating and ventilating equipment. The entire kit will fit in your shirt pocket.

WRITE FOR BULLETIN B-9

F. W. DWYER MFG. CO.
P. O. BOX 373-Q MICHIGAN CITY, INDIANA

▲ For more details circle NED-282 D8 on enclosed inquiry slip ▲

The Peerless Pal Lever Puller Makes Many Jobs Much Easier

Relocating machine tools, tightening guy wires, welding structural members, lifting and lugging heavy parts? A Peerless Pal Lever Puller is just what you need to make the job easier. This compact unit is so light it can be carried in the palm of the hand, so versatile it can be used anywhere a load must be lifted, lowered or dragged. It is safe, too. A true friction brake holds the load in any position. A welded and heat treated steel chain carries the load. A specially designed ratchet handle prevents excessive overloads. For detailed information, send for Bulletin P-40.

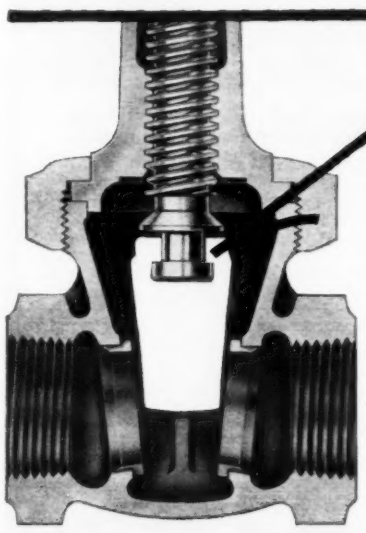
THE HARRINGTON COMPANY
Plymouth Meeting 16, Pa.

Hand Chain Hoists (1/4 to 60 tons) • Electric Hoists (170 to 4000 lb.)
Trolley Hoists (1/4 to 12 tons) • I-Beam Trolleys (1/4 to 20 tons)

▲ For more details circle NED-283 D8 on enclosed inquiry slip ▲

In JENKINS
Monel-seated Bronze Gates

THE WEDGE TAKES THE WEAR
...and spares the rings



Easy replacement of wedge only – right on the line — restores efficiency

MONEL SEAT RINGS are expanded into body to assure a positive, leak-proof joint. Exhaustive tests show this permanent all-around support of rings is essential to guard against deforming, loosening, or shifting.

THE RENEWABLE WEDGE (bronze or nickel alloy) has excellent wear resistance, but has a lower degree of hardness than the heat-treated Monel rings, which have optimum resistance to erosion and corrosion as well as abrasion. Thus, wear of wedge leaves rings relatively unaffected. When necessary to renew wedge, simply remove valve bonnet, slip old wedge off, and slip on a new one.

GET PRACTICAL, LOW-COST RENEWABILITY in valves for punishing services that require Monel-seated gates. There is nothing simpler, faster, or more economical than Jenkins replaceable wedge design. Jenkins Bros., 100 Park Ave., New York 17.

JENKINS VALVES
LOOK FOR THE JENKINS DIAMOND
SINCE 1864 TRADE JENKINS MARK
Jenkins Bros

▲ For more details circle NED-284 D8 on enclosed inquiry slip ▲

Partners····YOU AND YOUR
NO. 50 POCKET PAL

$1.00 AT YOUR LOCAL DEALER
CATALOGUE NO. 49 AVAILABLE UPON REQUEST

.030 MATTE FINISH MATHEMATICAL QUALITY DOUBLE-CURED PLASTIC. ALL HOLES SMOOTH-MILLED TO ENGRAVING MACHINE ACCURACY.

ONE OF MORE THAN 30 RAPIDESIGN TIME-SAVER TEMPLATES—ALL OF WHICH ARE BETTER MADE, MORE USEFUL AND LESSER PRICED.

RAPIDESIGN INC.
P. O. BOX 592 GLENDALE, CALIF.

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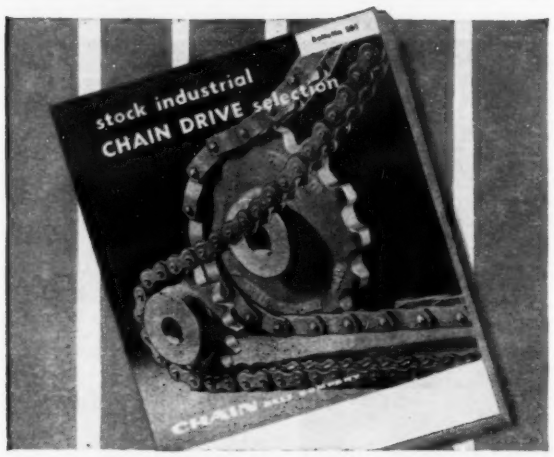


You can select stock chain drives!

You can translate *your* horsepower requirements...*your* shaft sizes and speeds...*your* load classification...*your* space limitations...into the right size and type of drive chain and sprockets with CHAIN Belt's new Bulletin 581. It's simple and fast. You select from easy-to-read tables the exact chain needed for *most economical* service.

Send for Bulletin 581 today. CHAIN Belt Company, 4686 West Greenfield Avenue, Milwaukee 1, Wisconsin.

CHAIN BELT

▲ For more details circle NED-286 D8 on enclosed inquiry slip ▲

DRILL 'EM
8 AT A TIME
IN ANY PATTERN
with a MULTI-DRILL

★ Covers area up to 22½"
★ Adjustable to any hole pattern
★ Fits any drill press

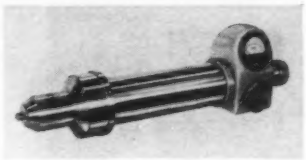
If you're drilling more than 1 hole in an area up to 22½" in diameter, you can save money and increase production with a MULTI-DRILL. Get full details—write for the Commander Production Tool Catalog today.

Want a demonstration in your plant? Write us and we'll arrange it with your nearby Commander Distributor.

Commander MFG. CO.
4220 W. KINZIE ST., CHICAGO 24, ILLINOIS

▲ For more details circle NED-287 D8 on enclosed inquiry slip ▲

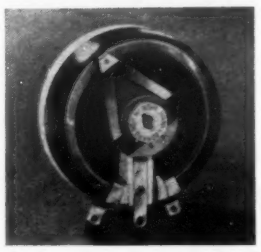
GRINDING SPINDLE
speed range is 60,000-100,000 rpm



An infinitely variable speed range of 60,000 to 100,000 rpm is offered by the Swedish UVA Turbo-Head grinding spindle. The precision, air-operated unit has an electric tachometer and automatic reaction valve control of air supply, torque, and speed for peak performance under all operating conditions. Various collets and quills are offered. Available from **Homestrand, Inc.**, 11 Addison St., Larchmont, N. Y.

▲ For more details circle NED-288 D8 on enclosed inquiry slip ▲

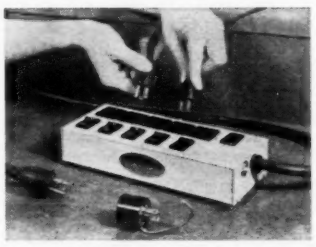
RHEOSTAT
offered in 100 and 150-w ratings



Recommended for rheostat or potentiometer use in electronic, industrial, and other control equipment, 100 and 150-w Vitrohm Ring rheostats provide smooth, gradual resistance change. Features include twin-shoe self-lubricating contacts; molded ceramic base and core which have high density, low porosity, and high dielectric strength; Vitrohm vitreous enamel base and core permanently bonded to secure the stable resistance wire; and minimum back-of-panel depth. They are available from stock with resistance values to 10,000 ohms or, on special order, with tapered windings, tandem mountings, dial plates, or other accessories. Made by **Ward Leonard Electric Co.**, 51 South St., Mt. Vernon, N. Y.

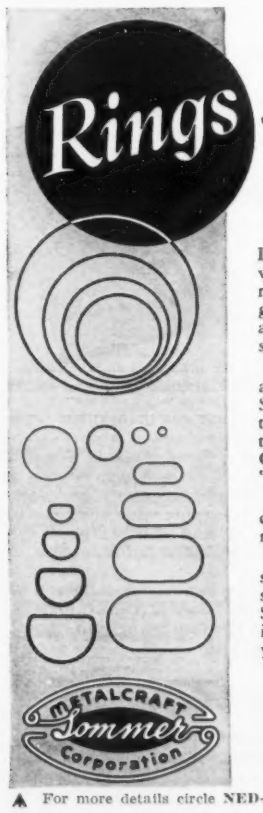
▲ For more details circle NED-289 D8 on enclosed inquiry slip ▲

SAFETY RECEPTACLE
provides five grounded ac outlets



Five overload-protected and safety-grounded alternating-current outlets can be provided from any single ac outlet by this Five-in-One control. Each of the five outlet sockets has a 15-amp on-off switch and accepts both three-prong grounding and two-blade plugs. An instant reset circuit-breaker trips at 15 amp, protecting instruments, timers, or inspection lights plugged into the control. Metal case measures 10½ x 4½ x 2 in. The 6-ft power cord is equipped with a three-prong self-grounding plug, as well as an adapter with grounding lead for use in two-blade sockets. Made by **Arthur S. LaPine & Co.**, Editorial Dept., 6001 S. Knox Ave., Chicago 29, Ill.

▲ For more details circle NED-290 D8 on enclosed inquiry slip ▲



...one of many wire products we make

Let Sommer solve your ROUND wire ring problems—including ring assemblies such as fan guards, grills, etc. Butt-welded and unwelded rings are our specialty.

Any gauge of wire up to ¼"—any sizes up to 24" in diameter, Sommer's modern, high-production equipment assures close-tolerance job specifications. Complete facilities for making "D" and oval rings as well.

Finishes include baked enamel, cadmium, brite zinc, brite nickel, nickel chrome, and mill finishes.

Let us work with you in designing and producing any wire shapes or forms you require. Send sample, blueprint or drawing—see how Sommer can save you time and money.

SOMMER
METALCRAFT CORPORATION
200 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

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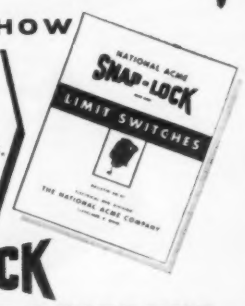
LIMIT SWITCH users!

FIND OUT HOW

you can get extra dependability, extra ruggedness without extra cost. Write for our Bulletin EM-51.



SNAP-LOCK
LIMIT SWITCHES

Made by machine tool builders to machine tool specifications.
The most reliable Limit Switches available for heavy-duty service.

Electrical Manufacturing Division
National Acme
The National Acme Company, 182 E. 131st St., Cleveland 8, Ohio

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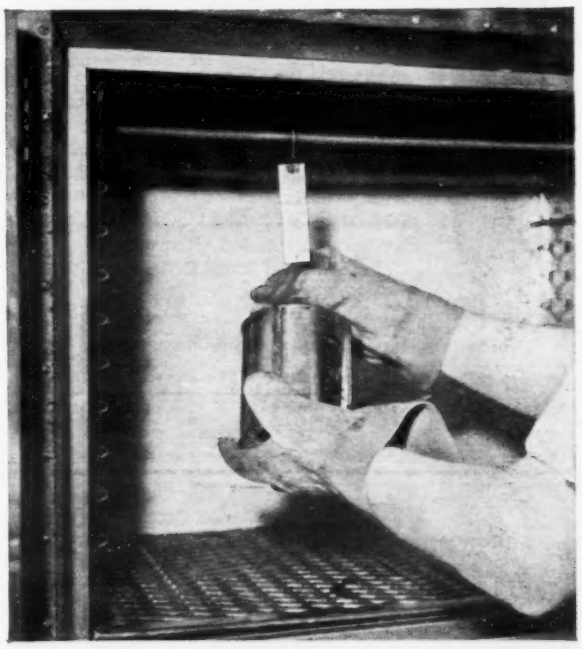
SUPER-BOND
ALUMINUM-TO-ALUMINUM

to withstand a 500° F. creep test!*



Use the adhesive that—

- Applies easily
- Cures at 300°-400°F.
- Has good low temperature properties
- Resists water, chemicals, oils, solvents
- Is permanent
- Bonds metals, plastics, plastisols, rubber, textiles

*10 psi static load indefinitely at 500°F.

Pliobond H.T. by GOODYEAR

Pliobond—T.M. The Goodyear Tire & Rubber Company, Akron, Ohio

▲ For more details circle NED-293 D8 on enclosed inquiry slip ▲

NEW Rockwood "316" Stainless Steel Ball Valve

• *Resists Wear Longer . . . Stays Leakproof*

PLUS The Outstanding Features of Other Rockwood Ball Valves — easy operation, low pressure sealing, stem repacking without removal from the line. Full, round flow every time.

PLUS Variations — many different seat types. Available with remote air-operation in wanted sizes ⅜" to 2". Write for complete specifications in the folder NEW ROCKWOOD "316" STAINLESS STEEL BALL VALVE.

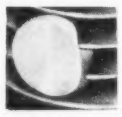
ROCKWOOD SPRINKLER COMPANY

2291 Harlow Street, Worcester 5, Mass.

▲ For more details circle **NED-294 D8** on enclosed inquiry slip ▲

Won't work loose!

Self-locking UNBRAKO socket head cap screws



UNBRAKO self-locking socket head cap screws with Nylok* give you positive locking without lockwashers, cotter pins or wires. The tough, resilient nylon pellet—serviceable from —70 to +250°F—locks these screws securely, seated or not, wherever wrenching stops. They won't work loose. Can be reused. Can be used as adjusting screws. Pellet also acts as liquid seal. Knurled heads give sure finger grip for fast starting. Accurate sockets assure positive, non-slip wrenching. Heat treated alloy steel, controlled fillets, continuous grain flow, fully formed Class 3A threads for maximum strength, exact fit. Standard sizes #0 to 1 in. Also in plated finishes and stainless. Request Bull. 2193. Unbrako Socket Screw Division, STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

*T.M. Reg. U.S. Pat. Off., The Nylok Corporation

UNBRAKO products are sold through industrial distributors

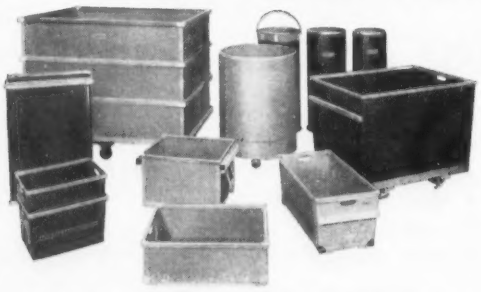
SPS Jenkintown • Pennsylvania

Standard Pressed Steel Co. • The Cleveland Cap Screw Co. • Columbia Steel Equipment Co., Inc. • Nutt-Shel Corporation • SPS Western • Standco Canada Ltd. • Unbrako Socket Screw Co., Ltd.

▲ For more details circle **NED-295 D8** on enclosed inquiry slip ▲

SPECIFY **Spaulding** PRODUCTS

for all your materials handling needs and replacement costs will be lower



Spaulding Vulcanized Fibre Materials Handling Products are smooth, tough and durable. They are light in weight, they resist grease, oils, moisture, impact and abrasion. They won't splinter, rust or corrode and are available in all standard sizes and shapes or custom-made to your requirements.

Send for FREE catalog today

SPAULDING FIBRE COMPANY, INC.
Dover, N. H.

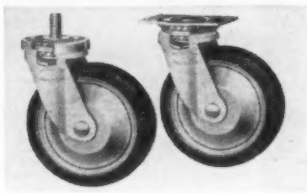
Please send me your free catalog of Spaulding Vulcanized Fibre materials handling products.

NAME _____
FIRM _____
ADDRESS _____
CITY _____ ZONE ____ STATE _____

▲ For more details circle **NED-296 D8** on enclosed inquiry slip ▲

LIGHT DUTY CASTERS

have ball bearing wheels, swivels



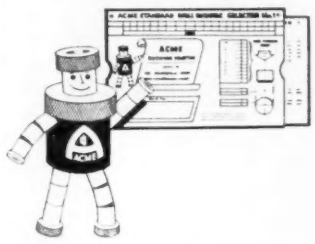
Developed especially for use on carts and other light duty industrial and commercial equipment, 400 GS double - ball - bearing grease - sealed casters have 5-in. diameter semipneumatic rubber tires. They have steel string, dirt, and water guards to keep foreign matter out of bearings. Grease seals on swivel and wheel ball bearings keep grease in and dirt out. Made by **Faultless Caster Corp.**, Dept. NED, 1521 N. Garvin St., Evansville 7, Ind.

▲ For more details circle **NED-297 D8** on enclosed inquiry slip ▲

DRILL BUSHING SELECTOR

slide rule lists 30,000 sizes

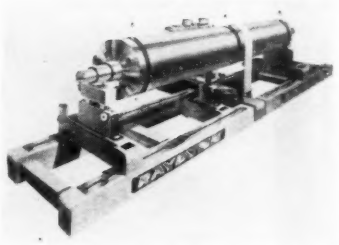
Engineers, designers, foremen, and draftsmen can requisition Acme or ASA standard drill bushings without referring to a catalog by using this plastic slide-rule type selector. The pocket-size slide rule gives standard sizes for over 30,000 drill bushings and also designates outside and inside diameters of liners in decimals. It shows head sizes of shoulder types and indicates proper lockscrews for all slip-fit bushings. Available free from **Acme Industrial Co.**, 213 N. Laflin St., Chicago 7, Ill.



▲ For more details circle **NED-298 D8** on enclosed inquiry slip ▲

DYNAMIC BALANCER

several custom-built models offered



Seismic - mounted, electronically controlled unbalance indicator with a force absorption device which automatically stops all motion caused by unbalance is incorporated in the Automic dynamic balancer. It affords accurate balance testing with the first run of the rotor. Device is offered as custom-built equipment in several models for handling such relatively high speed rotors as paper roll mills, diesel-electric armatures, flywheels, and turbines. Optional equipment detects whip or deflection, ages rolls prior to balancing, and balances low speed rotors. All balance measurements are shown on meter dials. Made by **Raydyne Corp.**, Dept. D, 920 W. Laurel St., Springfield, Ill.

▲ For more details circle **NED-299 D8** on enclosed inquiry slip ▲

Send for valuable FREE Bulletin 70 on Super Alloy Tubing

BRAND-NEW information on small diameter tubing of Super Alloys

This bulletin contains data on the properties of these important metals—and includes, among other things, a number of graphs showing the results of stress rupture and tensile tests. You will want a copy for handy reference.

Superior Super Alloy Tubing is being used where requirements are for high strength at high temperatures—in jet engines, missiles, gas and steam turbines, and many other applications in refineries and chemical processing plants. We offer 15 different Super Alloys in tubing form, as well as stainless, carbon and alloy steels, nickel and nickel alloys, beryllium copper and titanium.

For your free copy of Bulletin 70, write Superior Tube Company, 2018 Germantown Ave., Norristown, Pa.

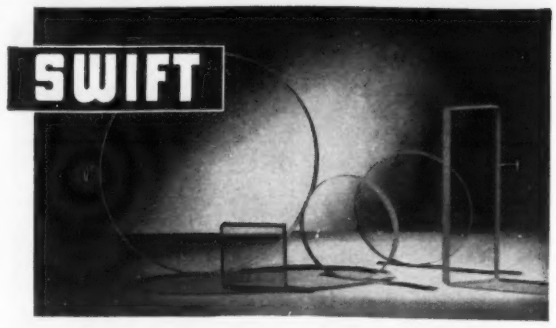
Superior Tube

The big name in small tubing

NORRISTOWN, PA.

All analyses .010 in. to ⅝ in. OD—certain analyses in light walls up to 2½ in. OD

▲ For more details circle **NED-300 D8** on enclosed inquiry slip ▲



a fast, convenient source for PYREX SIGHT GLASSES

We can supply perfectly true circles, precision-ground from heat-resistant polished plate glass. Used by chemical companies from coast to coast —resist clouding, pitting, chemicals (except HF and strong hot caustic solutions).

Squares, rectangles or odd shapes in 8 thicknesses (⅛" to 1"), sizes up to 24" x 60", also available for immediate shipment. Write, wire or phone for bulletin or quotation.

SWIFT *Glass Division*
SWIFT LUBRICATOR COMPANY, INC.

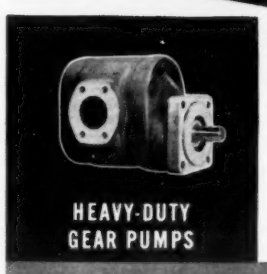
5 Glass St., Elmira, N.Y.

▲ For more details circle **NED-301 D8** on enclosed inquiry slip ▲

COMMERCIAL FLUID POWER UNITS

PROVIDE TOP PERFORMANCE

FOR ORIGINAL EQUIPMENT



HEAVY-DUTY GEAR PUMPS

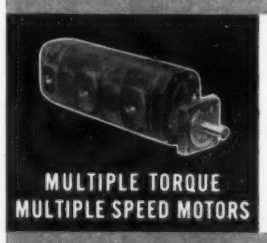
Generate Oil Hydraulic Power

- Constant delivery up to 80 gpm
- Continuous duty operation up to 2000 psi
- Life sustained high volumetric efficiency
- Multiple choice portings, mountings and shafts

MULTI-DIRECTIONAL CONTROL VALVES

Control Oil Hydraulic Power

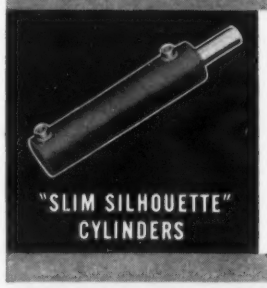
- Rated capacity—10 to 55 gpm
- Interchangeable working sections give multi-operating actions in any combination or sequence
- Load drop check in every section
- Pressure relief and overload protection



MULTIPLE TORQUE MULTIPLE SPEED MOTORS

Convert Oil Hydraulic Power

- Constant output up to 55 hp
- Continuous duty operation up to 2000 psi
- Start, stop or free wheel and reverse instantly
- Heavy duty service



"SLIM SILHOUETTE" CYLINDERS

Convert Oil Hydraulic Power

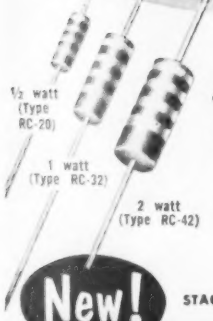
- Single acting, double acting, multi-sleeve telescopic
- Diameters up to 12"
- Operating pressure up to 1500 psi
- Easily disassembled for internal inspection

FREE CATALOG INCLUDES COMPLETE DRAWINGS AND PERFORMANCE DATA

COMMERCIAL *shearing and stamping*
Youngstown 1, Ohio

▲ For more details circle **NED-302 D8** on enclosed inquiry slip ▲

Easy-to-solder
FIXED RESISTORS
that exceed today's critical specifications . . . at regular resistor prices



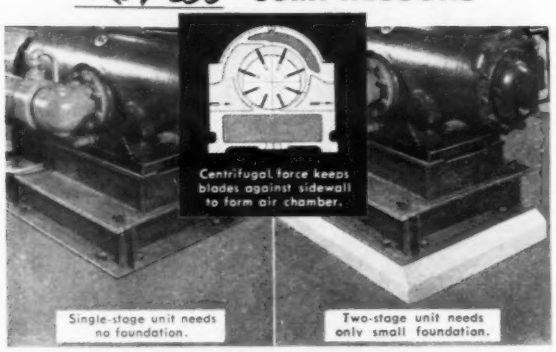
Pacing the trend toward higher temperatures and critical environments, these new Stackpole cold-molded resistors substantially exceed MIL-R-11B and other critical specification requirements. Hot tin dipped leads assure fast, easy soldering . . . and the resistors are available in reels or Strip-packs for automatic production handling. Write for Coldite 70+ Resistor Bulletin.

Electronic Components Division
STACKPOLE CARBON COMPANY, St. Marys, Pa

New!
STACKPOLE
Coldite 70®+
FIXED COMPOSITION TYPES

▲ For more details circle NED-303 D8 on enclosed inquiry slip ▲

Ro-Flo COMPRESSORS



Cut foundation costs

For small units there is no slab cost at all — they are bolted directly to the floor. Larger units need only a modified base, compared with the heavy, expensive foundations required by reciprocating compressors. And it's all because of the shock-free rotation of Ro-Flo design. Remarkably smooth operation eliminates vibration. Automatic wear compensation at the rotor blades keeps efficiency at constant high level.

RATINGS — There are twelve sizes of two-stage Ro-Flo compressors to choose from. They range from 250 to 1800 cfm at pressures from 60 to 125 pounds gauge. Single-stage units handle pressures up to 50 pounds gauge, volumes from 40 to 3000 cfm.

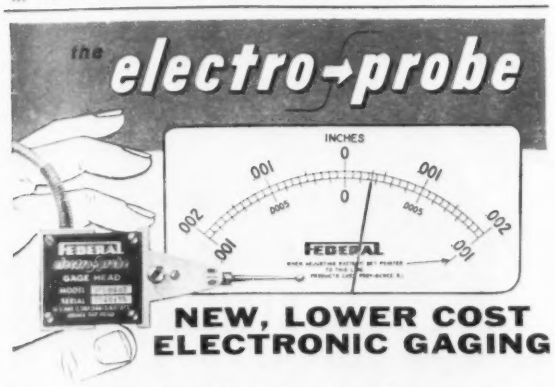
For complete information, ask for Bulletin 1688244. Call your nearby A-C office or write Allis-Chalmers, Industrial Equipment Division, Milwaukee 1, Wisconsin.

Ro-Flo is an Allis-Chalmers trademark.

ALLIS-CHALMERS A-5614

▲ For more details circle NED-304 D8 on enclosed inquiry slip ▲

the electro-probe



NEW, LOWER COST ELECTRONIC GAGING

The new Electro-Probe Model 230 P-2 is far more than just another electronic test indicator.

- No need for special stands or holding fixtures.
- No need for external power.
- No voltage fluctuation or warm-up problems.
- No need for close gage head positioning during set-up.

The Electro-Probe introduces a new concept in Dimensional Control. Use of *printed circuits* and *transistors* means trouble-free performance. Connections are sure, operating current amazingly low — no heating or voltage regulation problems, no dependence on electrical outlets. Learn more about this truly portable, reliable, accurate and versatile gaging device.

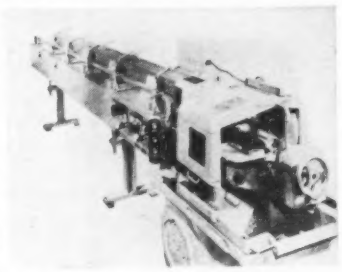
Write for Literature.

FEDERAL PRODUCTS CORPORATION
8174 Eddy Street • Providence 1, R. I.

Ask FEDERAL First
FOR RECOMMENDATIONS IN MODERN GAGES . . .
Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

▲ For more details circle NED-305 D8 on enclosed inquiry slip ▲

AUTOMATIC BAR FEED speeds production machining



Several improvements contribute to versatility of this modified automatic magazine-loading bar feed. An adjustable hydraulic check controls the speed of the bar stock through the stock tube and spindle regardless of changes in bar weight. Multiple controlled swing-stop permits variations in piece-part length from 3/16 in. to full length of machine's capacity. Stock tubes for different size bars are interchangeable. The electric controls are adaptable for use with auto-electric screw machines. Feed is also suited for use with centerless grinders, cut-off machines, punch presses, shears, threading machines, polishers, or any other machine having collet, chuck, or jaws which permit stock to be fed to a predetermined stop. Made by **Lipe-Rollway Corp.**, 806 Emerson Ave., Syracuse, N. Y.

▲ For more details circle NED-306 D8 on enclosed inquiry slip ▲

STEAM CLEANER single and two-gun models have variable volume, pressure, and heat

Heavy duty, automatic, high pressure Model 450 steam cleaner has an insulated heater casing, 275 ft of ¾-in. ID welded steel coil, Robertshaw automatic thermostatic control, and Barber natural draft burner of 800,000 Btu capacity. Unit is equipped with various safety features, 50 ft of wire braid hose, and a 60-gal detergent tank. Volume, pressure, and temperature are variable.

Cleaner will produce 325 gph of hot solution at 325° F and 325 psi; 450 gph of hot water at 325 psi; 450 gph of cold water at 325 psi; or 15 hp of wet steam. Cleaning materials that would harm the heating coil are used by by-passing the coil. The cleaner burns natural gas, and requires gas, water, and 220 v, 60 cycle, single or three-phase connections.

Also available is Model 450-2 with twin heaters for two-gun operation. It provides 600 gph at the same temperature and pressure. Each heater operates independently. Two and four wheel mobile models are also available. Made by **Delta Mfg. & Engineering Corp.**, Dept. 101, 308 S. Walton St., Dallas 26, Tex.

▲ For more details circle NED-307 D8 on enclosed inquiry slip ▲

NOW! Lubricate those hard-to-reach places

The EASY Way ...by SPRAY

Penetrates the tightest bearings

Cabot's new 10 oz. spray can of Lubri-Tasgon makes it easier than ever to loosen gummed-up sludge, relieve and prevent recurrence of sticky valves, provide lasting lubrication for all bearing surfaces. Has 25% greater lubricating power than ordinary oils, sprays freely even at 40° below zero. Lubri-Tasgon also comes in standard 3 oz. cans, pints, quarts and gallons.

10 oz. can only $1.50

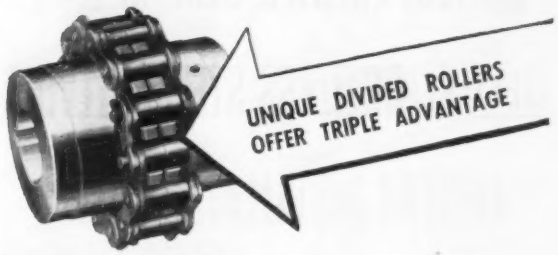
Try it. We'll pay shipping costs

SAMUEL CABOT INC.
432 Oliver Building, Boston 9, Mass.

Please send _____ cans of Lubri-Tasgon Spray @ $1.50 each
I enclose check for $_____

▲ For more details circle NED-308 D8 on enclosed inquiry slip ▲

For reliable shaft connections . . .



LINK-BELT
"RC" flexible couplings

Simplicity . . . low cost . . . dependability — Link-Belt "RC" flexible couplings offer these important design and performance benefits. Unique divided roller assures equalized load . . . proper balance at high speed . . . effective compensation for shaft misalignment. These all-steel couplings are precision-made and hardened for long life. They're stocked in a wide range of sizes, and are available for shafts up to 12 inches.

Write to LINK-BELT COMPANY, Dept. N.E.D., Prudential Plaza, Chicago 1, Ill., for Folder 2363.

14,498

LINK BELT
"RC" FLEXIBLE COUPLING

▲ For more details circle NED-309 D8 on enclosed inquiry slip ▲

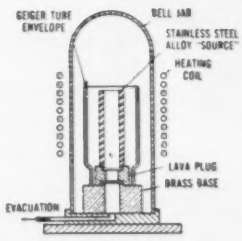
Lepel
HIGH FREQUENCY INDUCTION HEATING UNITS

The Lepel line of induction heating equipment represents the most advanced thought in the field of electronics as well as the most practical and efficient source of heat yet developed for industrial heating.

If you are interested in induction heating you are invited to send samples of the work with specifications. Our engineers will process and return the completed job with full data and recommendations without any cost or obligations.

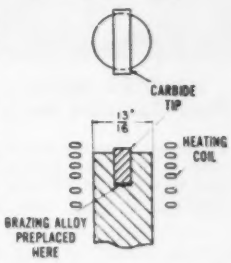
TYPICAL INDUCTION HEATING APPLICATIONS

METAL VAPOR COATING



The manufacture of Geiger Tubes requires a vapor coating of stainless steel inside of the glass envelope. The glass envelope is positioned inside of a bell jar which is connected to evacuation equipment. After evacuation, induction heating coil shown in position over bell jar heats the stainless steel source to high temperature causing vaporization. Condensation occurs on glass walls of the tube.

CARBIDE TIPS BRAZED TO GRANITE DRILLS



The drawing shows a carbide tip being brazed in the milled recess of a drill. High temperature brazing alloy is preplaced as indicated. Proper spacing of the turns of the heating coil extends the transition zone to avoid metallurgical notch and thereby fatigue failure. In a production set-up, the heating cycle can be preset so that every drill will be uniformly processed.

SELECTIVE HARDENING OF RAIL GROOVE

V-grooves in steel rails are selectively hardened by the coil shown. Heating and quenching occur progressively as the rail moves through the coil and a quench ring.

Electronic Tube Generators from 1 kw to 100 kw.
Spark Gap Converters from 2 kw to 30 kw.

WRITE FOR THE NEW LEPEL CATALOG . . . 36 illustrated pages packed with valuable information.

All Lepel equipment is certified to comply with the requirements of the Federal Communications Commission.

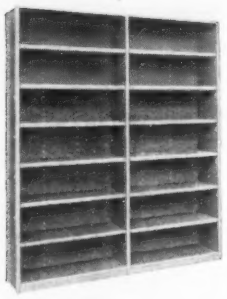
LEPEL HIGH FREQUENCY LABORATORIES, INC.
55th STREET and 37th AVENUE, WOODSIDE 77, NEW YORK CITY, N. Y.

▲ For more details circle NED-310 D8 on enclosed inquiry slip ▲

FASTEST ERECTED, STRONG, SAFE

DELUXE BOLTLESS STEEL SHELVING

LOWERS INSTALLATION COST



HERE'S WHY:

- **BOLTLESS SHELF BRACKET**
  Use no tools for easy adjustability
- **1-PIECE I-BEAM-TYPE UPRIGHT**
  Faster erection, rigid assembly
- **BUILT-IN SHELF REINFORCING**
  Reinforcing bars factory imbedded
- **SNAP-IN DIVIDERS**
- **CLIP-ON BIN FRONTS**
- **FLOOR ANGLE**
  Shelving erects vertically, in place

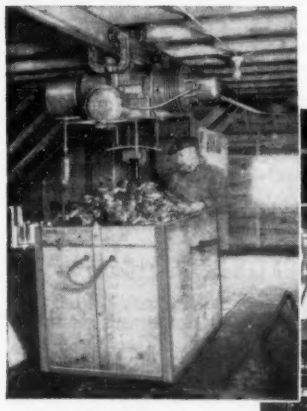
Call your local Deluxe dealer or write for new Catalog #30

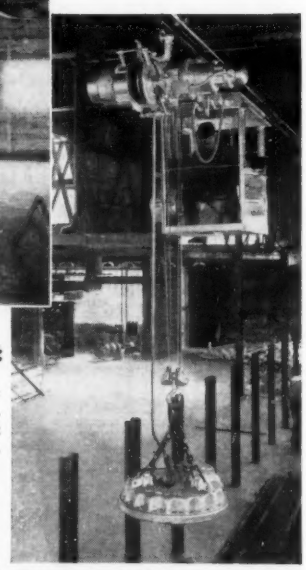
DELUXE METAL FURNITURE CO., Warren 2, Pa.
A DIVISION OF ROYAL METAL MANUFACTURING CO.

DELUXE
STEEL SHELVING

▲ For more details circle **NED-311 D8** on enclosed inquiry slip ▲

WHICH HOIST
fits your plant's needs?





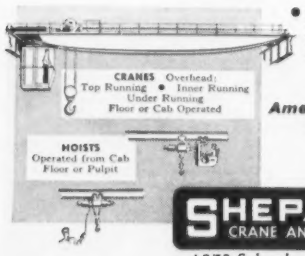
SHEPARD NILES Floor-Operated Hoist

Operator primarily occupied with other duties. Uses hoist for fast, efficient handling of short hauls.

SHEPARD NILES Cab-Operated Hoist

Operator in cab moves loads along at high speeds, occupies best vantage point for spotting and stacking material.

THE RIGHT HOIST . . . can reduce your plant's handling costs. But which one is best for the job . . . a floor-operated hoist where the operator is freed for other duties or a cab-operated hoist where he is engaged fulltime moving loads through the air? Because Shepard Niles manufactures both types of hoists — as well as a complete line of cranes . . . we can approach your handling problem with an open mind.



- Send for Bulletins describing Shepard Niles Cab and Floor-Operated Hoists. And request our representative to call.

America's Most Complete Line of Cranes and Hoists Since 1903

SHEPARD NILES
CRANE AND HOIST CORPORATION
1873 Schuyler Ave., Montour Falls, N.Y.

▲ For more details circle **NED-312 D8** on enclosed inquiry slip ▲

MULTIPLIER PHOTOTUBE
detects low-level light signals

Especially suited for low-contrast applications, No. 7029 multiplier phototube is a small, sturdy, dormer-window type. It is designed for use in detecting low-level light signals in the presence of relatively high background illumination. Median cathode luminous sensitivity is 125 microamperes per lumen. Spectral response covers the range of 2900 to 6200 angstroms, and maximum response occurs at 4900 angstroms. Made by **Radio Corp. of America**, Electron Tube Div., 33rd Floor, 744 Broad St., Newark 2, N. J.

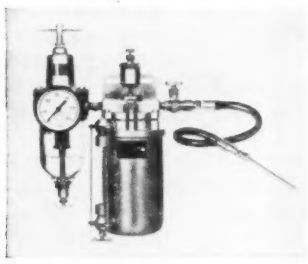
▲ For more details circle **NED-313 D8** on enclosed inquiry slip ▲

INSULATION STRIPPER
usable on cable, cords, bus drop

Insulation can be stripped from all types of control cable, flexible cords, PWC, telephone cable with vinyl or polyethylene jackets, and bus drop with this insulation stripping tool. It has a cast aluminum handle with hand - fitting grip and a tempered tool steel knife. The resharpenable knife strips insulation but does not damage conductors inside a weatherproof sheath. Made by **Mathias Klein & Sons**, Dept. NED, 7200 McCormick Rd., Chicago 45, Ill.

▲ For more details circle **NED-314 D8** on enclosed inquiry slip ▲

LUBRICANT SPRAY UNIT
delivers to one or two cutting tools



Cutting liquids to lubricate and cool either one or two cutting tools are sprayed by this Spray-Lube unit available with either 1 or 2-qt liquid capacity. Adjusting screw and visible oil flow of liquid reservoir assures accurate control of liquid flow. Gage shows amount of liquid in reservoir. A filter-regulator unit assures clean air. Needle valve at reservoir outlet serves as on-off control without affecting adjustment of air or liquid. The 15-in. length of semirigid hose can be bent to exact point for best lubrication. A Y-fitting and two lengths of hose are available for dual-point spray application. Made by **C. A. Norgren Co.**, 3405 S. Elati St., Englewood, Colo.

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***Helpful 56 page book* FREE**

if you use saws send for this book

This free book is based on facts and experience from many years' use of Foley precision saw filing equipment in thousands of plants. It contains pictures and helpful data showing how firms have actually increased sawing production 25% to 40%, lengthened saw life, reduced breakage, produced better work, and have lowered maintenance costs (one firm reports an annual saving of $350). Book includes instructions illustrating how automatic sharpening can benefit you. Request Manual No. 100—no obligation.

FOLEY MANUFACTURING CO. • 3323 N.E. 5th St., Minneapolis 18, Minn.

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For Star Performance . . .
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AO H-3 FACE SHIELD

Always insist on Trademarked Safety Products

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SAFETY PRODUCTS DIVISION

SOUTHBRIDGE MASSACHUSETTS
Branches in Principal Cities

1833-1958 • 125 LEADERSHIP YEARS

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MIX SOLUBLE OIL and WATER in 1/10th THE TIME

You can eliminate extra handling, save time, material and space . . . mix oil and water automatically, in the correct proportion, to form a uniform emulsion. The amazing . . .

FORCE-FLO
SOLUBLE OIL & WATER
MIXER

is easy to use . . . completely foolproof . . . has no moving parts! Fits standard drums.

Takes The Guesswork Out of Mixing!

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Force-Flo, Inc. P. O. BOX 2442 EAST CLEVELAND 12, OHIO

— Distributors Invited —

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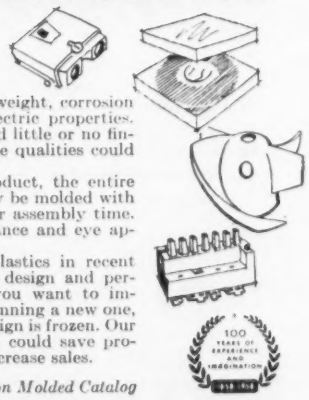
SAVE time and money
with Plastics Molded by RICHARDSON



Plastics are strong, lightweight, corrosion resistant and have high dielectric properties. Color is molded in. Parts need little or no finishing. Any one or all of these qualities could mean a saving to you.

If you analyze your product, the entire unit or a component part may be molded with savings in fabrication costs or assembly time. Resulting improved performance and eye appeal often mean more sales.

New developments in plastics in recent years have provided greater design and performance opportunities. If you want to improve your product or are planning a new one, call Richardson before the design is frozen. Our experience, as in other cases, could save production and unit costs and increase sales.

Write to Dept. 87 for Richardson Molded Catalog

the RICHARDSON COMPANY
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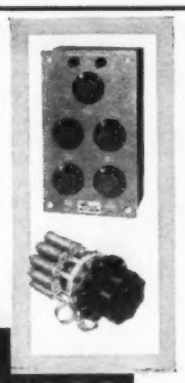
DECADE RESISTANCES



- Over 36 Stock Models
- 1 to 6 Dial Boxes or . . .
- Single, 10-Resistor Unmounted Units
- Total Resistances from 11.1 ohms to 11,111,110 ohms
- Steps as low as 0.01 ohm
- Accuracy better than 0.1% above 10 ohms.

Bulletin L-17A

. . . with the Stability & Accuracy only Wirewound Resistors Can Provide **Shallcross**

DECADE VOLTAGE DIVIDERS

3 Kelvin-Varley Models
Input Resistance—10K, 50K, and 100K ohms, ±0.05%.
Resolution—Any ratio from 0.0000 to 1.0000 in steps of 0.0001

5 Potentiometer Models
Total Resistance—1K, 10K, and 100K ohms, ±0.1%.
Steps—as low as 0.1 ohm.

Bulletin L-16B

SHALLCROSS MANUFACTURING CO., 540 Pusey Ave., Collingdale, Pa.

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FOR MAXIMUM SAFETY

all over your plant use Safety **GRIP-STRUT**

Pat. Pending

the new basic material, all in one piece (including channels), not welded, riveted or expanded in steel or aluminum, in standard sizes and gauges. Safety GRIP-STRUT presents an open space, in a diamond pattern, in excess of 55% of the area for ready access of light and air and gives a positive NON-SKID footing in all directions. Ideal for work platforms, stair and ladder steps, flooring, balconies, catwalks, machinery guards, fire escapes and for original equipment safety treads.

Important Safety Features

- ★ Fire proof
- ★ Slip proof
- ★ Maximum strength
- ★ Minimum weight
- ★ Easy to stand on
- ★ Cool in summer — warm in winter

Big Economy Features

- ★ For balconies—no extra light needed below—no extra heat.
- ★ No extra supports necessary—channels are integral part of the material
- ★ No secondary sprinkler heads needed
- ★ Self-cleaning
- ★ Cut and installed like lumber by your own maintenance force
- ★ Low in original cost

Distributors in all principal cities. Consult yellow pages in phone book under "GRATING."

Write for Catalog

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THE GLOBE COMPANY • *Manufacturers since 1914*
4002 S. PRINCETON AVE. • CHICAGO 9, ILL.

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Flexflyte can save you time and money in any of these operations

Flexflyte is an extremely flexible, rugged fabric ducting that installs fast and requires little maintenance. It cuts quickly to required sizes from stock lengths. No special elbows or fittings are needed to turn it around corners. And its smooth integrated bends provide an unobstructed flow of whatever is being conveyed. Though light in weight, Flexflyte has high tensile strength and excellent resistance to abrasion and chemicals. It will not support combustion. Diameters from 3" to 12". Flexflyte® is stocked by leading industrial distributors in the United States and Canada.

For full information on Flexible Tubing's complete line of ductings for industrial applications or the help of a field engineer, write Dept. 24.

Flexible Tubing
CORPORATION
Guilford, Connecticut
Anaheim, California **Hillside, Illinois**

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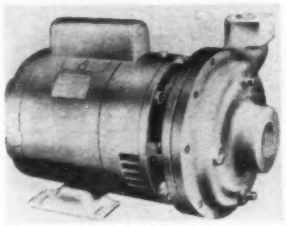
CENTRIFUGAL PUMP for hot or cold water circulation



Suited for horizontal or vertical installation, Type A5 centrifugal pump is offered in 13 sizes with capacities to 150 gpm and 1/3 to 3-hp motors for operation on 115/230-v 60-cycle ac or 208/220/440-v three-phase 60-cycle ac. Pumps are particularly suited for circulator service handling hot or chilled water. Made by **Dunham-Bush, Inc.**, 179A South St., West Hartford 10, Conn.

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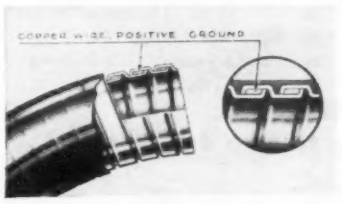
FLEXIBLE CONDUIT has built-in copper wire ground



U. A. Sealflex, black, liquid - tight, synthetic covered, flexible conduit can now be used where UL approval is specified for complete protection against liquid and moisture vapor conditions. Conduit has extra heavy galvanized steel core with copper wire ground and an overall black polyvinyl chloride plastic cover which resists moisture, oils, greases, and many chemicals. It is available in 3/8, 1/2, 3/4, 1, and 1 1/4-in. trade sizes. Made by **Universal Metal Hose Co.**, Dept. NED, 2133 S. Kedzie Ave., Chicago 23, Ill.

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THICKNESS GAGE measures coating, plating thickness

Nondestructive measurement of coating and plating thickness on base materials is function of the Model FLW-1 Glennite Laminagage. It also measures thickness of metallic film or foil; detects surface and subsurface cracks in smooth and rough coatings, flat stock, or plate and tubing; measures coating thicknesses on odd-shaped pieces; and continuously monitors coating thickness on assembly lines. Measuring range is 0.00005 to 0.007 in. and accuracy is within 10 per cent on ferrous and nonferrous materials and a wide range of conducting and nonconducting coatings on conducting base materials. Oscillator units, probes, and calibration charts are supplied. Made by **Gulton Industries, Inc.**, 210 Durham Ave., Metuchen, N. J.

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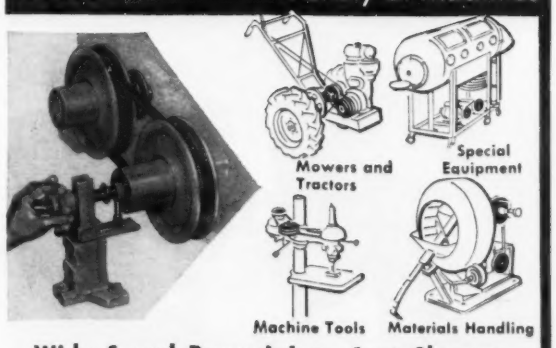
SPEED SELECTOR

VARIABLE PITCH SHEAVES

Control Speeds on Variety of Machines



Wide Speed Range! Low Cost Sheaves

Speed Selector Sheaves can give your machines or equipment extra wide-range speed control on fixed centers. Efficient, rugged, simple to use — low in cost! Write for Illustrated Bulletin.

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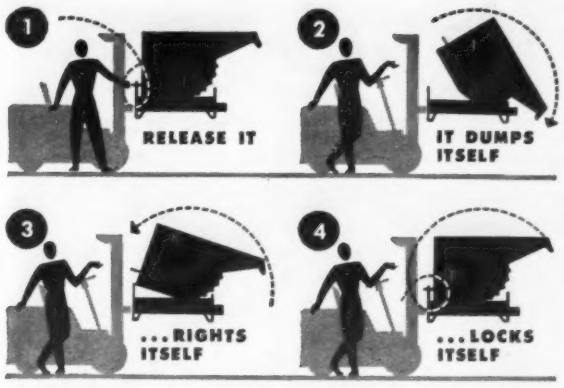

unload 2 tons with 1 hand

It's easy with a Roura Self-Dumping Hopper. Simple, one-man operation does it with amazing speed . . . *cuts cost of hand unloading by at least 50%*. That's why hundreds of leading industries have found it the safe, sensible, economical way to handle wet or dry, hot or cold bulky materials.

It fits securely on any standard fork or platform lift truck . . . turns it into an efficient, semi-automatic dump truck. And, remember . . . Roura makes 'em rugged . . . extra heavy gauge welded construction . . . to withstand years of toughest treatment. They're available in sizes from ½ to 2 cubic yards. Literature and other information available on request. ROURA IRON WORKS, INC., 1415 Woodland Ave., Detroit 11, Mich.

ROURA *Self-Dumping* **HOPPER**

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Save money... mix fluids without special tanks

Make any open container a mixing vessel . . . with a LIGHTNIN Portable Mixer

Take this short cut to more profitable production! Don't waste time and labor transferring fluids to special mixing tanks.

HOW BIG is the mixing job? There's a LIGHTNIN to handle it! Permanent-mounting models for open or closed tanks up to 8 million gallons. Sizes ¼ to 500 HP. Send for descriptive Catalog B-109.

Power-mix them right where they are—in can, drum, pail, or kettle—with a LIGHTNIN Portable Mixer.

Fast, thorough. Just clamp the right size LIGHTNIN in place and flip a switch. Stir paint, chemicals, glaze. Dissolve fine powders, mix heavy slurries. Keep products from burning while heating. Powerful LIGHTNIN propeller stream *tumbles* and *rotates* the batch for complete uniformity, usually in a few seconds.

No risk. Your mixing results are unconditionally guaranteed when you mix with LIGHTNINS. Thousands are in use, many 25 years and more.

Thirty portable models to choose from. All have ball-bearing motor; quickly removable true-running shaft; instant locking in any position. Sizes ⅛ to 3 HP. For full details, request 28-page illustrated Catalog B-108.

Lightnin® Mixers

MIXCO fluid mixing specialists

MIXING EQUIPMENT Co., Inc., 165-d Mt. Read Blvd., Rochester 11, N.Y.
In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 10, Ont.

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TURNS *Every* SHAPE!

REED

Reed comes in 10", 14", 18", 24", 36", 48" and 60" lengths.

This newer Reed-line Chain Wrench is a Plus-tool: It does every job you can do with a conventional pipe wrench—plus—the jobs a conventional pipe wrench can't do! Reed Chain Wrench has faster, ratchet-like action which permits screwing up or unscrewing from either side . . . without removing the wrench from the pipe. Reed Chain Wrench turns every shape as it works easily where an ordinary wrench won't work at all—close to baseboards, in tight corners and between parallel pipe lines. Reed Chain Wrench holds firmly and securely without "play" or crushing.

ASK YOUR SUPPLIER OR WRITE FOR FREE LITERATURE.

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Hobbs Slitter and Rewinder at Sullivan Paper Co., West Springfield, Mass.

"Highly Efficient"...

SULLIVAN PAPER COMPANY'S DESCRIPTION OF HOBBS SLITTER AND REWINDER

Sullivan Paper Company uses this custom-engineered Hobbs machine to slit and rewind two different widths from a single roll of paper. One width (top roll) is 10"; the other (bottom roll) is 16". Finished rolls are tightly wound, have exceptionally straight edges (1/64" tolerance) and an average diameter of 24". Control of web edge is automatic.

Takeup of paper after slitting is effected by two Hobbs-Alquist motors. These motors automatically sense torque increase, as the rolls build up (as high as 10 to 1), and their speed automatically decreases in direct proportion. Thus tension is automatically controlled at all times and the quality of the products safeguarded.

The Hobbs-Alquist winder has a squirrel cage 3-phase A.C. motor, flange mounted to a gear reducer. It can be connected directly to the rewind shaft and is entirely independent of the main machine drive. Just plug it into your present 3-phase power outlet—no transformers or converters. Then set a knob to the desired tension and walk away.

The Hobbs-Alquist Winder is much more efficient than other types of winders, saves labor, is easy to maintain (no brushes or tubes), compact, clean and flexible. It is applicable to and widely used for the conversion of plastic, rubber and textile webs, as well as paper webs.

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41-D Salisbury St., Worcester 5, Mass.

Send full information on Hobbs-Alquist Winder
Hobbs Slitter & Rewinder

Name .....
Company .....
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City ..... State .....

79-8

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LINEAR INSTRUMENT BEARING uses recirculating ball principle

Instruments of many types, controls, and other components requiring very low friction linear motion are applications for the INST-4812 supersensitive Ball Bushing. Inherent feature is that forces perpendicular to the bushing's axis cannot cause linear motion. The recirculating ball principle provides unlimited travel. Bearings will roll down a shaft at an angle of 1 min or less. The small, lightweight unit can withstand high vibration and gravitation forces. Bore diameter is 0.250 in., + 0.0000, − 0.0003 in. Nominal size is 0.500 in. OD x 0.750 in. Rolling load rating of the 0.02-lb bearing is 13 lb and static load rating is 22 lb. Made by **Thomson Industries, Inc.**, 1035 Plandome Rd., Manhasset, N. Y.

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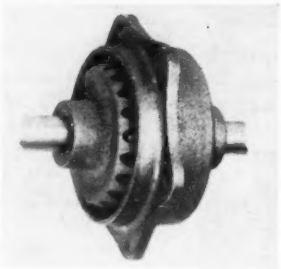
COMPACT DIFFERENTIAL suited for up to 6-hp drives



Capable of giving equal power to both wheels and also affording easy, shortened turning, this compact differential assembly is designed for use with vertical and horizontal shaft engines on self-propelled mowers, tractors, and small vehicles. Usable in forward or reverse, it handles up to 6-hp drives. Axle bore can be from ½ to 1 in. diameter. Made by **Cizek Mfg. & Distributing Co.**, Dept. NR-1, Clutier, Iowa.

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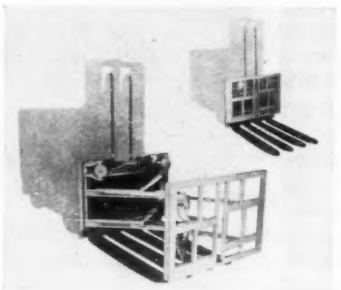
LOAD PUSHING ATTACHMENT for industrial power lift trucks



Designed for mounting on 4000-lb capacity fork lift trucks, this Load Push attachment facilitates car or truck loading, warehousing, and bulk material handling. Mounted on the side shift carriage, it shifts with the forks. Power is provided by hydraulic cylinders actuated by truck hydraulic system. It pushes any load off of the forks for accurate spotting or stacking. Made by **Cascade Mfg. Co.**, Dept. N, Box 7587, Portland 20, Oreg.

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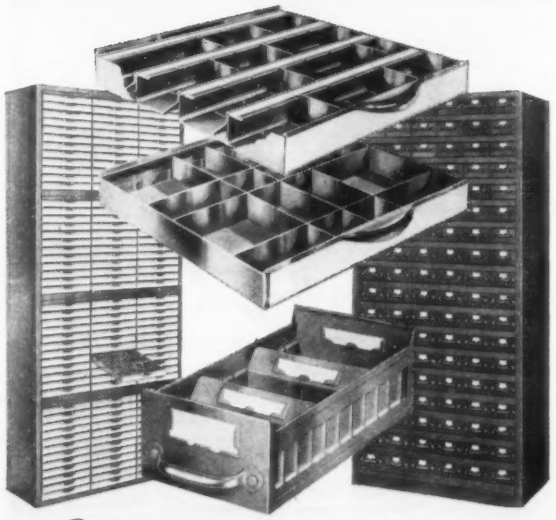
up to 6,184 Drawer Compartments in only 3 sq. ft. of floor space!



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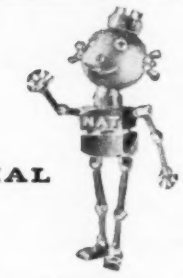

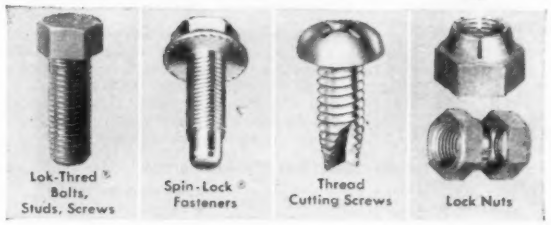

Regardless of your fastener requirement National can save you time and trouble. *Write* for National's Special Products booklet, or for information on the fastening specialty that interests you.

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National PRODUCTS

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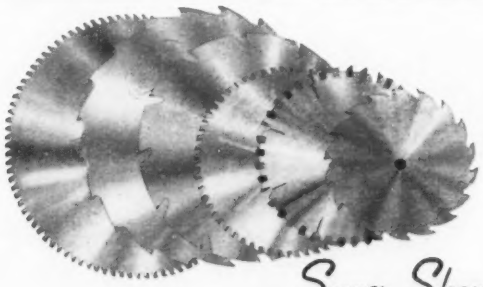

Super Sharp

BECAUSE IT'S *Super Honed!*

MEYCO – *the finest money can buy!*

Each carbide tip has an EXTRA, fine-grit, diamond honed, lapped edge for razor-keen sharpness, for smoo-oo-th cuts, for long, long life . . . fine steel blades are engineered for carbide tipping; carbide tips and blade go together like ham and eggs. This EXTRA quality is reflected in YOUR results! Many years of experience with carbide gives MEYCO the know-how that is so valuable to you. Practically any sized blade, any number of teeth, standard or specials . . . your inquiry is invited. Write for Catalog No. 29.

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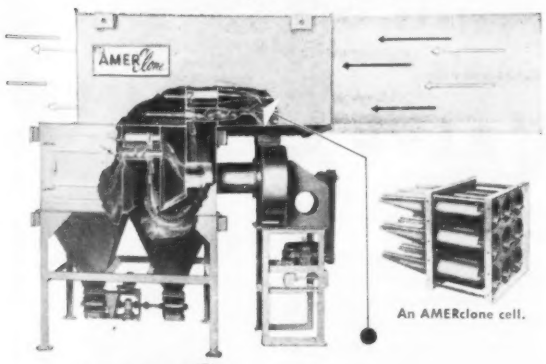
NOW! Positive Control of FLY ASH



An AMERclone cell.

AAF AMERClone —WORLD'S NEWEST DRY CENTRIFUGAL DUST COLLECTOR

Specially-designed for boiler fly ash, the rugged AMERclone operates with constant particle-size efficiency *at all times*, regardless of steam load fluctuations. What's more, AMERclone requires less space than other centrifugals. Call your local American Air Filter representative for details or write direct for AMERclone Bulletin 291.

American Air Filter
COMPANY, INC.
391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

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Permanently End Condensation Drip, Rust and Corrosion with NoDrip Plastic Coating!

Here is the inexpensive, easy way to solve your condensation problem once and for all. NoDrip plastic coating acts immediately to insulate and protect tanks, pipes, walls, ceilings, air ducts and other metal equipment against condensation drip, rust and corrosion. NoDrip can be applied by anyone without special experience with brush, trowel or spray. NoDrip is also resistant to acid, alkali and brine...protects concrete, brick, plaster, tile, wood or composition surfaces.

32-PAGE NoDrip DATA HANDBOOK Complete with photographs, charts and technical information to help solve your condensation problem. Write today!

Available at leading plumbing and mill supply houses
J. W. MORTELL COMPANY 526 Burch St., Kankakee, Ill.

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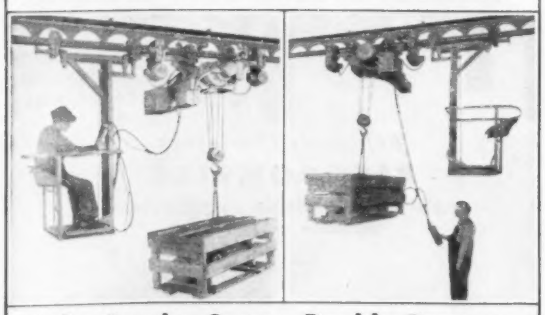
OPERATED FROM FLOOR OR PLATFORM



Hoist Carrier Serves Double Purpose

★ For distant runs the operator rides the platform. For local handling such as unloading trucks, he controls the unit from the floor. Also when the amount of materials to be handled requires two men, one can work on the floor and the other on the platform. ● This is only one of dozens of Cleveland Tramrail time-saving ideas.

GET THIS BOOK! BOOK No 2008 Packed with valuable information . . .

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6624 East 285th St. Wickliffe, Ohio

CLEVELAND TRAMRAIL

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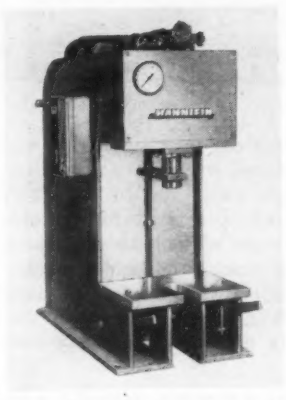
4-TON BENCH PRESS for forming, trimming, and assembly



Dual hand control and adjustable down - stroke control are standard on this high speed bench press with a 4-ton capacity. Electric pushbutton controls with or without pressure reversal are optional. Return stroke is adjustable on all models. Tonnage also is adjustable from 10 per cent to full capacity. Press stands 39 in. above the bench on a 17 x 30-in. base plate. Stroke is 6 in., reach from throat of frame to ram centerline is 6 in., and gap is 12 in. The removable table measures 14½ x 10 in. Down advance speed is 700 ipm, down feed speed is 330 ipm, and return speed is 670 ipm. Applications include forming, trimming, and force-fit assembly. Made by **Hannifin Co.**, 528 S. Wolf Rd., Des Plaines, Ill.

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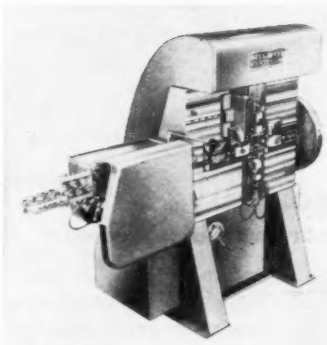
FOUR-SLIDE MACHINE forms wire and ribbon metal stock in continuous, automatic cycles



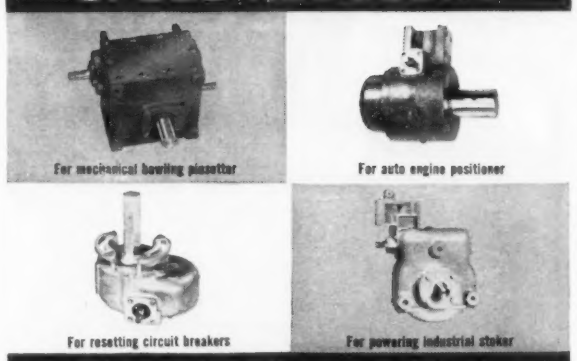
Automatic production of a wide variety of formed parts to close tolerances at high speeds from both wire and ribbon metal stock is possible with the V-187 Vertiform vertical four-slide forming machine. Vertical forming arrangement ejects the finished product to the front, makes tooling accessible and view of product unobstructed, and adapts machine to hopper or magazine feeding.

Metal is taken directly from the coil and is straightened, fed, cut off, and formed. Threading, hollow milling, or chamfering can be included in the forming process. Wire up to 0.187 in. diameter and ribbon metal stock up to 1¼ in. wide can be handled. Maximum length of standard feed is 15 in.

Automatic lubricating system, built-in form moving attachment, and fluorescent lighting over the tooling area are standard. Accessories include wire and stock reels and a 4 or 20-ton press attachment, mounted vertically on the machine face, to increase machine capacity. Made by **A. H. Nilson Machine Co.**, 1500 Bridgeport Ave., Shelton, Conn.

▲ For more details circle NED-342 D8 on enclosed inquiry slip ▲

Special OHIO SPEED REDUCERS



"Engineered" To Your Specifications

• If the design of your machine calls for a *special* speed reducer . . . OHIO is the place to get it! An experienced staff of power transmission engineers can help you modify a standard reducer to solve your problems or, design and build an entirely new speed reducer to meet the demands of your application.

Contact your local OHIO Distributor or write direct for assistance in solving your special speed reducer problems.

Get Your Free Catalog — 186 pages packed with useful information on gears and speed reducers

Manufacturers of gears and speed reducers-both stock and special

ohio OHIO GEAR Co.
1320 E. 179th ST. • CLEVELAND 10, OHIO

▲ For more details circle NED-343 D8 on enclosed inquiry slip ▲

SIMPLEST 4-WAY CONTROL

with NEW Schrader Lockdown Foot Pedal Air Valve

You can give your operator effortless, positive four-way control with this newly-designed pedal valve. It's ideal for use with double acting air cylinders and other reversing applications. The rocker-type pedal locks open or closed until tripped to the opposite position.

Flow capacities range from 150 to 375 cubic feet per minute, at 100 psi inlet pressure. Port sizes range from ¼" to ¾". Write for free Schrader catalog.

A. SCHRADER'S SON
Division of SCOVILL
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

▲ For more details circle NED-344 D8 on enclosed inquiry slip ▲

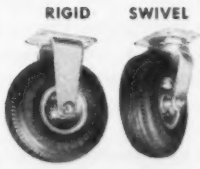
GENERAL

WIDE-BASE PNEUMATICS

Tops For Dependable, Low-Cost Performance!

Designed to save you time, money and labor, long-wearing General Wide-Base Pneumatics are your best bet for lower operating costs. Featuring high-flotation for easier rolling, they cushion loads and equipment against damage, save high cost floors and floor surfaces. Complete line gives you the exact design for every purpose.

Available separately or in assemblies of tires, tubes and wheels. Size O. D. 8" to 35"—200 to 7890 lbs. capacity for low or high speeds.



CASTER FORKS Engineered to carry heavier loads without adding dead weight to equipment, these wide-base caster forks come in identical pairs in a wide range of sizes.

SEND FOR CATALOG, DEPT. 4

THE GENERAL TIRE & RUBBER CO. • AKRON, OHIO

▲ For more details circle NED-345 D8 on enclosed inquiry slip ▲

No more drudgery for me in cleaning grease-caked floors

Flip of switch re-sharpens brushes automatically!

His boss is happy too . . .

and should be. A Finnell 84XR Dry-Scrubber does the job in about one-tenth the time required to hand-scrape the floors, and spares maintenance men the back-breaking effort of manual methods. Two powerful scarifying brushes, with total spread of 22 inches, quickly loosen coatings of dirt, oil, grease, and shavings. Interchangeable rings and brushes adapt the machine to wet-scrubbing, polishing, and steel-wooling. (The Vac illustrated, *Finnell's 10C,* has 1½ hp By-Pass Motor. Tank holds 12 gallons *wet.* 1¼ bushels *dry.*) For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 5504 East St., Elkhart, Ind.

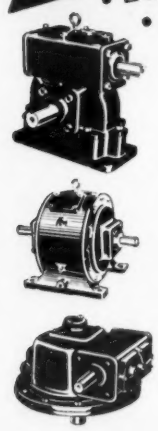
Brushes adjust to floor irregularities

FINNELL SYSTEM, INC.
Originators of Power Scrubbing and Polishing Machines
FINNELL
BRANCHES IN ALL PRINCIPAL CITIES

▲ For more details circle **NED-346 D8** on enclosed inquiry slip ▲

Abart SPEED REDUCERS for

• ECONOMY • • ACCURACY • • LONG SERVICE-LIFE •



Horizontal or vertical drives; inputs from either side; right, left, top or bottom outputs. A size and type for every application. Ratings from 1/20 to 400 h.p. Ratios up to 10,000 to 1.

Compact precision-built Abart Speed Reducers make the most of your power. Simplified trouble-free design and construction assure lower operating and maintenance costs.

Write today for Abart's fact-packed pocket size speed reducer catalog. See the results of 30 years of careful specialized study on thousands of speed reduction problems.

ABART GEAR and MACHINE CO.
4831 WEST 16th STREET • CHICAGO 50, ILLINOIS

▲ For more details circle **NED-347 D8** on enclosed inquiry slip ▲

RIGID VINYL EXTRUSIONS

Rigid vinyl extruded profiles offer excellent physical and electrical properties, plus outstanding corrosion-resistance and weatherability. As electrical insulators, bus duct covers, interior and exterior architectural trim, slides, window track, or as varied structural units, Vin-Con rigid vinyls offer material and cost advantages. Dies are inexpensive, the end product often less costly than metal.

Write for full information and technical data.
Dept. NED-458

CONNEAUT RUBBER and PLASTICS CO.
CONNEAUT, OHIO 1579A

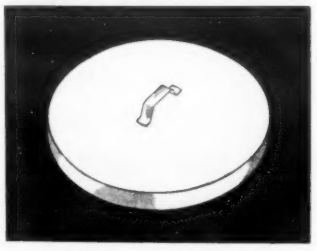
▲ For more details circle **NED-348 D8** on enclosed inquiry slip ▲

HOLE FINISHING TOOL
burnishes, sizes to close tolerance

Combined burnishing and compression action of the Shearcut Gizmo tool produces perfectly finished holes to close tolerances in nonferrous metals. In use, tool is fed by automatic, lathe, turret, or drill press into previously drilled and reamed holes. Either part or tool is rotated during this operation. Compression action of tool stresses material beyond its elastic limit, producing a high burnish or finish. Stock sizes are from 1/16 to 1 in. Made by **Shearcut Tool Co.,** Dept. NEDM-12, 7045 Darby Ave., Reseda, Calif.

▲ For more details circle **NED-349 D8** on enclosed inquiry slip ▲

FLAT-TOP DRUM LIDS
make 30 and 55-gal drums rainproof



One-piece flat-top lids permit utilization of 30 and 55-gal drums for storage and handling of dry materials, parts, refuse, equipment, and other products. The easy-to-use, rainproof lids have a center handle and a smooth, seamless surface. Made of 20-gage steel, they are either galvanized or painted green. The 55-gal size has a 24-in. ID and a 1¾-in. flange. The 30-gal size has an 18⅞-in. ID and 1½-in. flange. Made by **Witt Cornice Co.,** 4454 Steel Place, Cincinnati 9, Ohio.

▲ For more details circle **NED-350 D8** on enclosed inquiry slip ▲

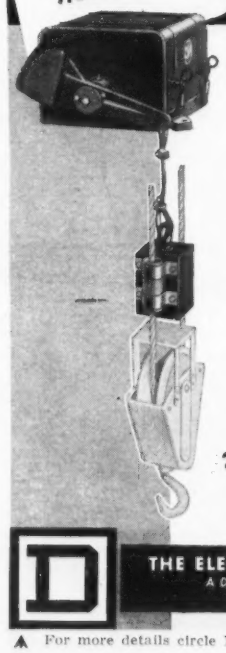
PRESSURE CONTROL VALVE
is welded or screwed in container

Automatic pressure regulation to any desired pressure and rapid pressure dumping are afforded by Marman pressure control valve. Designed to military specifications, this corrosion resistant, dirtproof valve is easily installed in a container by welding or by use of an underside screw nut. It can be welded in plastic containers during fabrication. Device simplifies maintaining a head of dry air in large sealed containers. Filtered, dried air displaces the existing air in the container. Any pressure up to 20 psi can be maintained. A quarter-turn quickly releases the pressure and affords access to the container. Made by **Aeroquip Corp.,** Marman Div., Dept. A-1, 11214 Exposition Blvd., Los Angeles 64, Calif.

▲ For more details circle **NED-351 D8** on enclosed inquiry slip ▲

Prevent OVERHOISTING ACCIDENTS

EC&M LIMIT STOPS



for AC and DC Cranes

• Crane operators work better when fear of overhoisting accidents is eliminated. The EC&M Limit Stop disconnects motor from the line for a quick stop.

On DC cranes with high hoisting speeds, dynamic braking reduces drift and aids in bringing the hook block to rest. Because EC&M Limit Stops are operated directly by the hook block, stretching of the hoisting cable does not affect tripping point.

EC&M Limit Stops are easily installed on both new and existing AC and DC cranes.

Write for Bulletin 6170

It gives the complete story of EC&M's Youngstown Safety Limit Stops

THE ELECTRIC CONTROLLER & MFG. CO.
A DIVISION OF THE SQUARE D COMPANY
CLEVELAND 28 • OHIO

8046-R

▲ For more details circle **NED-352 D8** on enclosed inquiry slip ▲

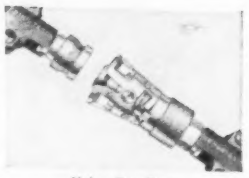
EXTRA HEAVY locking, safety type quickly detachable

Valve Coupling Locked in "On" Position

VALVE COUPLINGS

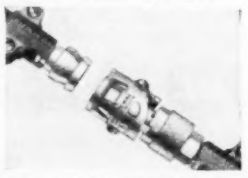
give the operator complete control of the air line at any point

Operator can shut off air and change tools quickly. Newly improved design permits the coupling to be locked in either "On" or "Off and Exhaust" position. Air in tool is exhausted to atmosphere automatically, preventing accidents. Pressure tight leak-proof construction — but free swiveling to avoid kinking the hose. For any application involving line air to 250 psi.



Valve Coupling Unlocked and Disconnected

Valve Coupling Locked in "Off and Exhaust" Position



Write for Bulletin No. 551

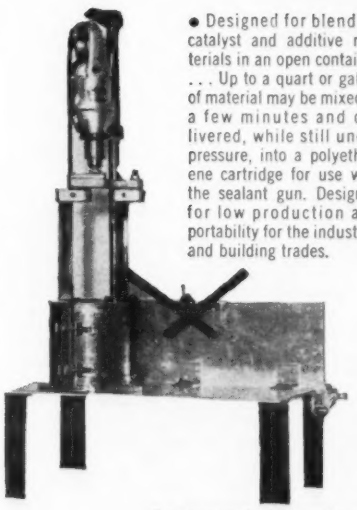
Quick-As-Wink®
Air and Hydraulic Control Valves and Pressure Specialties
C. B. HUNT & SON, INC.
2105 E. PERSHING ST. • SALEM, OHIO

▲ For more details circle **NED-353 D8** on enclosed inquiry slip ▲

Pyles

PORTABLE MIXING AND FILLING UNITS

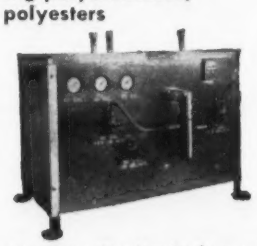
Pyles-SEMCO **SEALANT GUN**
CAPACITY
2½ oz., 6 oz., 12 oz.



• Designed for blending catalyst and additive materials in an open container . . . Up to a quart or gallon of material may be mixed in a few minutes and delivered, while still under pressure, into a polyethylene cartridge for use with the sealant gun. Designed for low production and portability for the industrial and building trades.

AVAILABLE IN ONE QUART AND ONE GALLON SIZES

Automatic Continuous
BLENDOMETER
metering and mixing polyurethenes; epoxies, polyesters



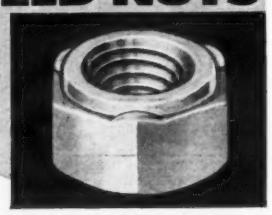
Multi-Purpose Pumps
•
Metering and Measuring Devices
•
Hydraulic Hose Machines & Couplings
•
Conveyor Lubricators
•
"Tip-Seal" Flow Guns & Nozzles

• The Pyles Blendometer is a production unit suitable for continuous measuring and mixing of two and three part chemical systems. Chemicals, which will gravity flow, can be metered to a mixing head through variable control metering units which can be adjusted with very high accuracy. Unit measures 36" x 21" x 29½" high. Weight 500 lbs.

PYLES INDUSTRIES, INC.
8926 SECOND AVENUE • DETROIT 2, MICHIGAN

▲ For more details circle **NED-354 D8** on enclosed inquiry slip ▲

These 2 WELD NUTS for blind assemblies

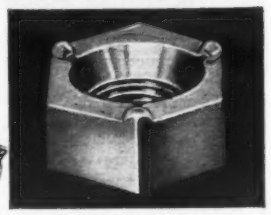


Gripco Pilot-Projection Weld Nut, circular pilot designed, provides quick, easy positioning of nut in bolt hole for instant resistant welding. No jigs, no fumbling, no waste of time. Weld spatter cannot foul threads. Two pilot heights for different metal gauges.

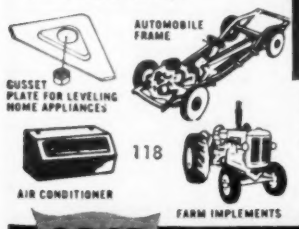
will give you

- Easier Positioning
- Quicker Fastening
- Extra Threaded Depth
- Less Cost

Available with or without Gripco locking feature. Three weld projections on bottom of nut provide a firm non-rocking electrical connection during welding. Write for samples and NEW CATALOG today.



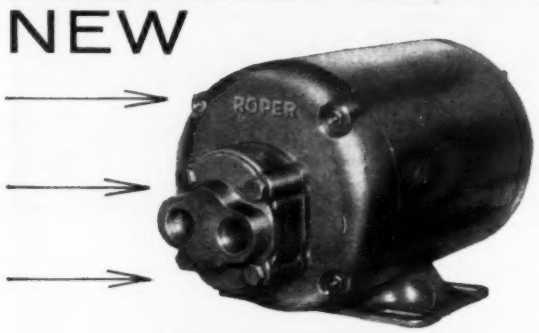
Gripco Countersunk Weld Nut eliminates time-wasting retapping of nuts after welding. Exclusive countersunk nut bottom eliminates fouling of threads by weld spatter. No time wasting false starts, no cleaning of damaged threads, nut ready to receive bolt immediately.



GRIP NUT COMPANY
106 Maple Ave. • South Whitley, Ind.

▲ For more details circle NED-355 D8 on enclosed inquiry slip ▲

NEW



ROPER
T-SERIES PUMP UNIT
Compact, Integral Construction
.6 to 6.8 GPM — Pressures to 400 PSI
for Hydraulic, Pressure Feed, or Transfer Work

Space-savers for those stationary or mobile units where dependable pumping is a must. That's the new T Series by Roper . . . the compact pump unit that is approximately the same size as a standard motor of the HP required for driving. The pump serves as the end bell of the motor . . . design eliminates a coupling, thus conserving valuable space.

Send for Bulletin 31 Today

664 BLACKHAWK PARK AVENUE
ROCKFORD, ILLINOIS

ROPER HYDRAULICS, INC.

▲ For more details circle NED-356 D8 on enclosed inquiry slip ▲

For Faster, Better Soldering

Use Rubyfluid

RUBYFLUID'S better soldering flux—liquid or paste—assures you of strong, neat unions, quickly and easily. RUBYFLUID'S fast acting formula wets out freely . . . is free from objectionable and harmful fumes . . . is economical to use.

For stainless steel soldering, use RUBY'S Special Stainless Steel flux . . . designed specifically for this application . . . requires no extra heat, no extra equipment, will not corrode or discolor metal.

RUBY CHEMICAL CO.
72 S. McDowell Street Columbus 8, Ohio

Rubyfluid

▲ For more details circle NED-357 D8 on enclosed inquiry slip ▲

KEYLESS CHUCK
for drills, tightens by hand

Ball bearing screw construction of this Supreme keyless chuck for portable drills allows it to be tightened by turning the barrel with the fingertips. Jaws can be opened the same way, without undue effort, and without use of a tool. Chuck will not jam, will not loosen during drilling, and will always operate within acceptable limits of runout. Made by **Supreme Products Corp.**, 2230 S. Calumet Ave., Chicago 16, Ill.

▲ For more details circle NED-358 D8 on enclosed inquiry slip ▲

SAFETY GOGGLES
welder's and chipper's models

Soft vinyl plastic frames of Softie Coverall safety goggles provide wearer comfort by molding to the face. Light in weight, they fit over all prescription glasses and have pliable nose shields. Model GW-400 for welders has lightproof, indirect ventilators to eliminate harmful light rays and glare. They have removable rings and Glenweld filter lenses. Chippers' Model GC-400 is similar, except for direct ventilation, clear frame, and clear, safety hardened or laminated Glenrock 50 mm lenses. Made by **Glendale Optical Co.**, 602 W. Merrick Rd., Valley Stream, L. I., N. Y.

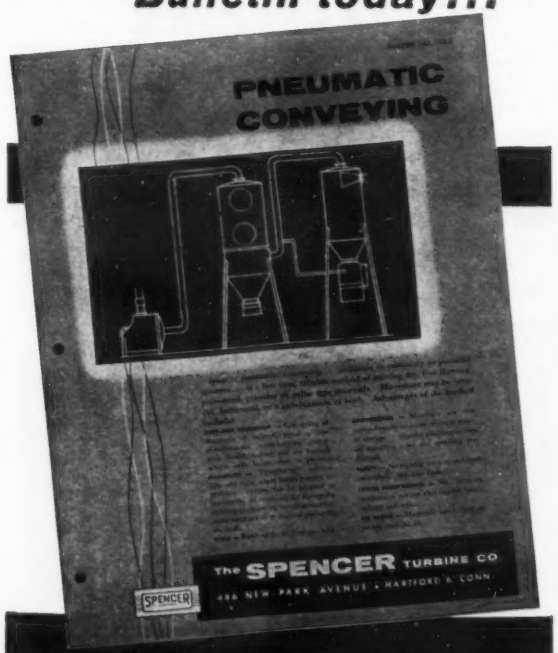
▲ For more details circle NED-359 D8 on enclosed inquiry slip ▲

DIGITAL VOLTMETER
for dc and ac voltage, resistance

All-electronic Model 5350 digital voltmeter measures direct and alternating current voltage and resistance accurately within 0.5 per cent. It is equipped with automatic polarity indicator, decimal position indicator lights, accurate oven-controlled reference voltage for calibration, and ac/dc switch type probe. Readings to 150 per cent of full scale are properly indicated, even if the input goes beyond the range setting. Selectable ranges are ±1/10/100/1000 v ac; ±1/10/100/1000 v ac rms; and 10,000/100,000/1,000,000/10,000,000 ohms. Binary 1-2-2-4 code output is provided to drive a digital recorder. Made by **Beckman Instruments, Inc.**, Berkeley Div., Dept. NED, 2200 Wright Ave., Richmond 3, Calif.

▲ For more details circle NED-360 D8 on enclosed inquiry slip ▲

Request this NEW Bulletin today...



The SPENCER Turbine Co.
486 NEW PARK AVE. • HARTFORD 6, CONN.

▲ For more details circle NED-361 D8 on enclosed inquiry slip ▲

Direct-Air VALVES for Easy AUTOMATION

COMPLETE VALVE CATALOG Ready!

MEADMATIC

4-way pilot-operated air valve for direct or remote control—no delicate electrical hookup needed.

A light momentary touch on limit switch actuates main valve piston—response is instantaneous! Catalog free.

Write today!

THE MEAD MAN CAN HELP YOU CUT COSTS Now!

MEAD SPECIALTIES COMPANY
4114 N. Knox Ave., Dept. NA-48, Chicago 41, Ill.

PATHFINDER IN AIR POWER AUTOMATION

▲ For more details circle NED-362 D8 on enclosed inquiry slip ▲

GOODYEAR TIRES

Look for this sign; there's a Goodyear dealer near you.

For a big lift

Pick Goodyear Pneumatic Industrials

SUPER RIB —All-new, all-purpose tire gives unusual strength and stamina in industrial service

HARD ROCK LUG — For industrial, mine and lumber service—where snags and cuts are a problem

LUG —For industrial, mine or material handling service, where deep, non-directional traction is required

RIB ALL-WEATHER —All-purpose tire with hi-flotation — recommended for wheelbarrows, motor scooters, and material handling

STUDDED — For extra traction in soft going, industrial and power-mower service

ALL-WEATHER —For industrial, power-mower, mine service, or highway service, where traction is a must

ORDER THESE INDUSTRIAL TIRES FROM YOUR GOODYEAR DEALER.

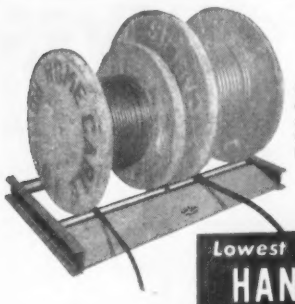
For the tough jobs that really test tires, you can count on Goodyear Pneumatic Industrials. They're built with Goodyear's exclusive Triple-Tempered 3-T Cord—to provide exceptional resistance to heat, impact and bruising. Next time you're buying new equipment or new tires, specify these performance-proved Goodyear Pneumatics—the best industrial tires money can buy. Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Use the Right Tire for the Job—Buy and Specify

GOODYEAR INDUSTRIAL TIRES

All-Weather—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

▲ For more details circle NED-363 D8 on enclosed inquiry slip ▲

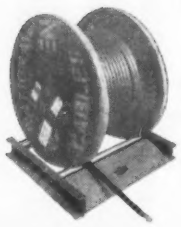


Style "B" 4,000 lbs. cap. for 2 reels up to 24 in. wide each or 1 reel up to 48 in. wide. (weight 110#)
PRICE — $84.50
F. O. B. Cincinnati

Lowest Cost . . . Least Effort

HANDLE REELS THE MODERN WAY

Put the "eeze" in handling reels, fast, easy, efficient, safe.



Style "A" 2,000 lbs. cap. for reels up to 28 in. wide. (weight 60#)
PRICE — $46.50
F. O. B. Cincinnati

WIRE-ROPE-CABLE

- No jacks
- Handle any reel diameter
- Heavy steel frame
- Slanted front
- Ball-bearing adjustable rollers
- Positive roller lock for unloading

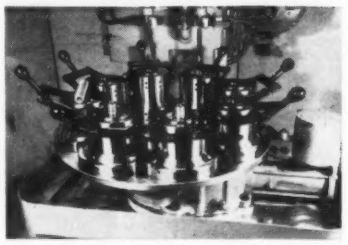
(SPECIAL SIZES QUOTED ON REQUEST.)

Order today . . . or write for details

ROLL•A•REEL 4630 Reading Road Cincinnati 29, Ohio

For more details circle NED-364 D8 on enclosed inquiry slip

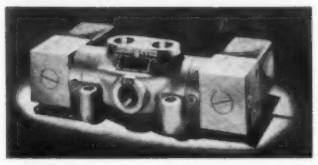
INDEXING TABLE
advances 90 degrees in 0.7 second



Control adjustable for speed and dial load is incorporated in this fast-indexing table with a 330-lb dial. It indexes 90 degrees in a smooth, shockless operation in 7/10 sec. Photo shows ¾ in. diameter four-pitch steel parts being tapped at two per cycle by a Kaufman Model 66 machine. Made by **Kaufman Mfg. Co.**, 565 S. 29th St., Manitowoc, Wis.

For more details circle NED-366 D8 on enclosed inquiry slip

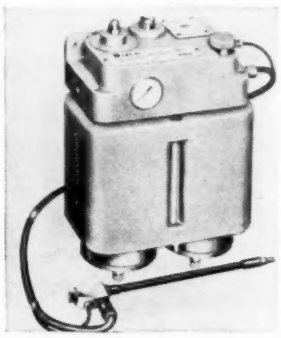
HYDRAULIC VALVES
for up to 3000-psi oil systems



Line of directional control valves for hydraulic oil systems includes lever, stem, cam, oil-pilot, air-pilot, and oil-pilot solenoid - controlled models. Three standard and five alternate spool styles are offered for special circuit requirements. Most models are available with a choice of spring centering, spring offset, or two types of no-spring spool actions. Valves have interchangeable mounting dimensions and are suitable for systems up to 3000 psi. Available ½ and ¾-in. pipe sizes have 12 and 18-gpm flows respectively. Made by **Dukes Co.**, Dept. C, 3999 N. 25th Ave., Schiller Park, Ill.

For more details circle NED-367 D8 on enclosed inquiry slip

MIST COOLING UNIT
extends tool life, improves finish



Range of settings from superfine mist to a heavy spray are available on Spraymist coolant equipment, designed to include air filter, trap, regulator, gage, solenoid valve, conduit box, pressurized coolant reservoir, and filter. Normally dry operations are given the advantages of coolants in extending tool life, improving work finish, and increasing output while retaining work visibility. The pressurized coolant reservoir mounts anywhere. Atomizing takes place in the jet tip. One Spraymist unit can supply 10 or more jets, offered in three types. Three solenoid voltage ratings are offered. Units with 18-oz or 1-gal (shown) capacities are offered. Made by **Bijur Lubricating Corp.**, Dept. N, 151 W. Passaic St., Rochelle Park, N. J.

For more details circle NED-368 D8 on enclosed inquiry slip

NEW!

RAPISTAN® ROLLER CONVEYOR
featuring interchangeable rollers

Spring-loaded, snap-in rollers make new Rapistan gravity roller conveyor exceptionally flexible and versatile. Rollers can be removed or inserted with minimum effort — no bolts, no wrenches. Easy to re-space rollers in the field. Available in many types and sizes of 1.9" roller, for a wide range of wholesale, retail and industrial applications.

★ Aluminum or Steel ★ Medium and Heavy Duty
★ Galvanized or Baked Enamel ★ 15 widths 12" to 54"
★ Rollers Set "High" or "Low"

Rapistan interchangeable roller conveyor, at new low prices, is available for prompt delivery. Write for full information.

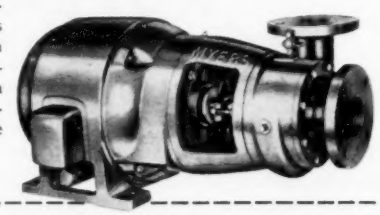
Rapistan® The RAPIDS-STANDARD CO., Inc. 442 Rapistan Bldg. Grand Rapids 2, Mich.

For more details circle NED-370 D8 on enclosed inquiry slip

INTERCHANGEABILITY means minimum repair stocks for MYERS CENTRIFUGALS

On Myers Centrifugal Pumps of similar sizes, the volute case, impeller, wearing rings and suction head are interchangeable. Packing gland assemblies and shaft sleeves are identical on all types and sizes.

This interchangeability of parts plus simple design and rugged construction mean low-cost, top performance over the long haul.



Myers centrifugals may be the economical answer to your special pumping problems. Find out today.

Myers® PUMPS

THE F. E. MYERS & BRO. CO.
9504 Orange Street, Ashland, Ohio • Kitchener, Canada

For more details circle NED-371 D8 on enclosed inquiry slip

WANT TO KNOW MORE ABOUT BEARINGS?

You'll find this catalog packed with valuable engineering data and specifications on Freeway Omega-Type semi-precision bearings. Included are facts and figures covering thousands of high-quality ball and roller bearing combinations, with each unit designed to give you the maximum in anti-friction protection . . . for just pennies. If you use low RPM bearings (on shafts ¼" through 1"), it will pay you to get this money-saving story. Send for your catalog today.

Other quality Freeway products include precision-type washers . . . and stampings. The coupon below will bring you immediate information.

Gentlemen: Rush me a Freeway bearing catalog. Also include details about ( ) washers, and ( ) stampings.

Name .....
Street .....
City ..... Zone ..... State .....
Signature .....

Freeway WASHER & STAMPING COMPANY
P. O. Box 1756, Cleveland 5, Ohio

For more details circle NED-365 D8 on enclosed inquiry slip

NEW Cyclo-trell Dust Collector

Here are a few brief facts on Research's new multiple tube mechanical collector. • Collection efficiencies are higher, for a given pressure drop, than other conventional multiple tube collectors. • Gas flow per tube is higher than conventional units. This means fewer tubes per collector and lower total cost for a given capacity.

Higher Collection Efficiency

After testing many types and curvatures of vanes, Research found that this new aerodynamic design resulted in less turbulence, greater centrifugal force and higher collection efficiencies.

Greater Gas Handling Capacity

To develop a higher gas flow capacity than other multiple tube collectors, Research's engineers developed the following design features:

First, by using a 10" diameter inlet tube, instead of the conventional 9" tube, the flow of incoming gas was increased. The next step was to straighten the gas flow as it entered the outlet tube, since a spiraling gas stream creates more resistance than a straight through flow. In the Cyclo-trell this spiral is eliminated, and energy is recovered in the outlet tube by the Outlet Recovery Vanes. By positioning these vanes below the tube, rather than inside the tube, resistance has been further reduced.

This combination of features means greater gas flow per tube, fewer tubes per collector and a lower total cost for a given capacity and efficiency.

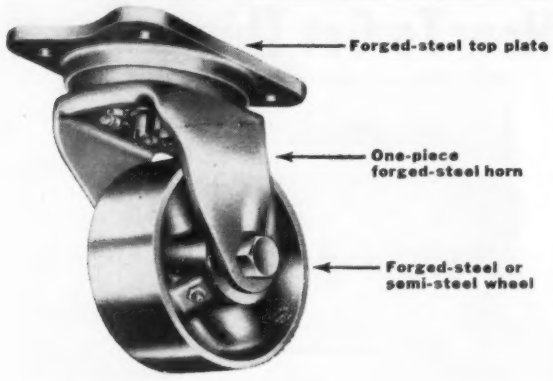
Bulletin M gives complete details on design features, efficiency, capacity and detailed dimensional drawings. Write for your copy today.

Research-Cottrell, Inc.

Main Office and Plant: Bound Brook, N. J. • 405 Lexington Ave., New York 17, N. Y. • Grant Building, Pittsburgh 19, Pa. • 228 North La Salle St., Chicago 1, Ill. • 111 Sutter Bldg., San Francisco 4, Cal.

RC 170

For more details circle NED-369 D8 on enclosed inquiry slip



BASSICK SERIES "HA"
extra heavy-duty caster

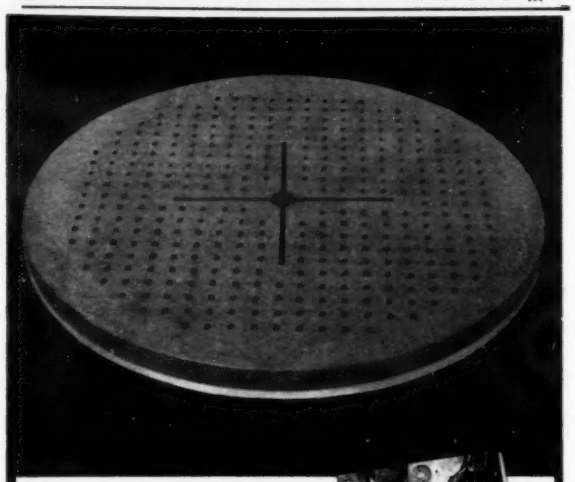
Do you need a caster designed for moving heavy machinery or equipment?

These extra heavy-duty Bassicks will carry up to 2000 pounds apiece on 6" or 8" steel wheels. They provide the best insurance against damage to costly heavy equipment.

Other wheel sizes (from 5" to 12") and other types of wheels are available. THE BASSICK COMPANY, Bridgeport 5, Conn. *In Canada:* Belleville, Ont. 8.34

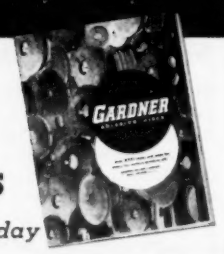
Bassick SYMBOL OF EXCELLENCE

▲ For more details circle **NED-372 D8** on enclosed inquiry slip ▲



new 20-page selector guide for abrasive discs

...send for your copy today

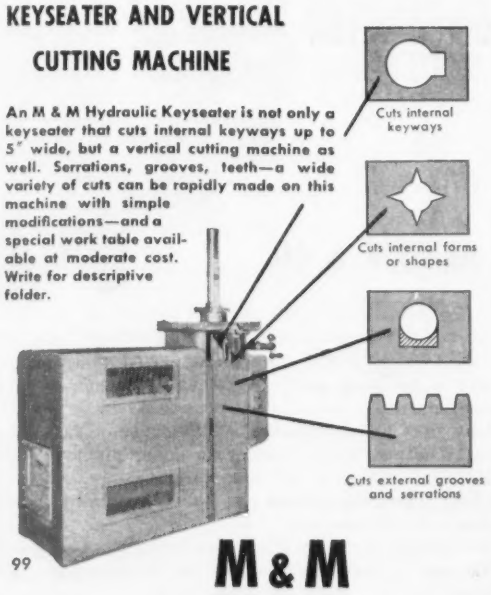


GARDNER abrasive discs — MACHINE COMPANY, 460 Gardner St., Beloit, Wisconsin

▲ For more details circle **NED-373 D8** on enclosed inquiry slip ▲

TRIPLE THE USEFULNESS OF YOUR M&M KEYSEATER AND VERTICAL CUTTING MACHINE

An M & M Hydraulic Keyseater is not only a keyseater that cuts internal keyways up to 5" wide, but a vertical cutting machine as well. Serrations, grooves, teeth—a wide variety of cuts can be rapidly made on this machine with simple modifications—and a special work table available at moderate cost. Write for descriptive folder.



99

M&M

KEYSEATERS AND VERTICAL CUTTING MACHINES

MITTS & MERRILL • 1000 So. Water St. • SAGINAW, MICH.

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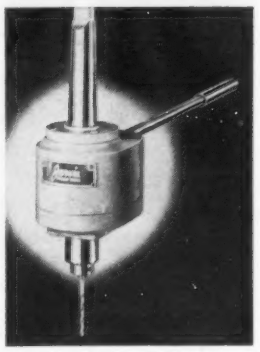
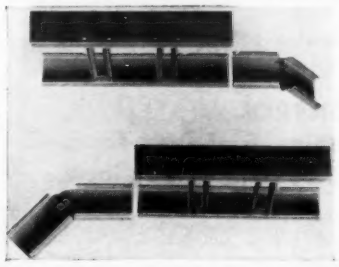
HIGHSPEED DRILL ATTACHMENT
usable in any drill press spindle



Conventional drill presses are converted to high speed drilling machines with this Drillspeeder. This attachment affords a maximum spindle speed of 30,000 rpm, permits the use of carbide drills, and is excellent for drilling small holes. Gear ratio is 4 to 1, and chuck capacity is from No. 80 to 5/32 in. Ground, heat-treated spindle operates in preloaded ball bearings. Made by **Jarvis Corp.**, Stack Street, Middletown, Conn.

▲ For more details circle **NED-375 D8** on enclosed inquiry slip ▲

CABLE SUPPORT SYSTEMS
splice plates by-pass obstructions



The problem of running aluminum or steel cable and tubing support systems over, under, or around obstructions has been simplified by these two adjustable splice plates. They slip onto Chalfant cable support elements and securely lock in place. Only tool needed is a pair of Channellock pliers. Splice plates are available in steel, aluminum, or Type 2 Armco Aluminized steel. Made by **Chalfant Products Co.**, 11525 Madison Ave., Cleveland 2, Ohio.

▲ For more details circle **NED-376 D8** on enclosed inquiry slip ▲

SUBMINIATURE CLUTCHES
overall diameter is only 0.59 in.

Suitable for airborne, missile, and other applications where space and weight are primary considerations, this Microclutch has 0.59-in. diameter. It is available in clutch, brake, clutch - brake, and special configurations. Other models are offered for fail-safe or reverse energization uses. Fast response is obtained with low coil wattage. Torque is 4 oz-in., while the declutched drag is less than 0.06 oz-in. Made by Magtrol, Inc., 242 Seneca St., Buffalo 4, N. Y.

▲ For more details circle **NED-377 D8** on enclosed inquiry slip ▲

THREADS PIPE...FAST!

OSTER Portable Power Drive puts speed and power into every hand pipe tool

Famous Oster Quality . . . get all the facts about the No. 432 LIGHTWEIGHT Champ. Write to:

THE OSTER MANUFACTURING CO.
1311 E.189th St., Wickliffe (Cleveland), Ohio

▲ For more details circle **NED-378 D8** on enclosed inquiry slip ▲

Write for new Safety Switch Bulletin
Square D Company, 6060 Rivard Street
Detroit 11, Michigan

NOW... EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

SQUARE D COMPANY

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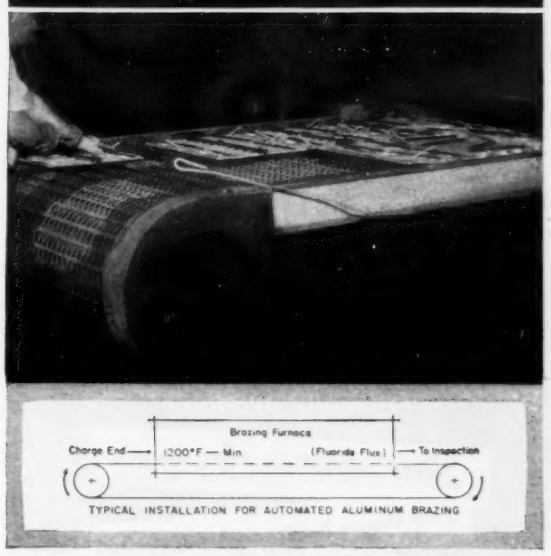
Cambridge WOVEN WIRE BELTS



METAL-MESH BELT CONTROLS PRODUCT UNIFORMITY IN CONTINUOUS BRAZING

Here's a belt that not only shrugs off hot, corrosive atmospheres, but helps process metal parts more uniformly—and in less time. Moving continuously through the furnace, the Cambridge Belt allows heat to circulate freely through its open mesh and around the product for thorough treatment.

No matter what you process—food, chemicals, metals or ceramics— through hot, cold, dry or wet operations —Cambridge Belts can help you increase production and lower operating costs. Here's how:

CONTINUOUSLY MOVING BELTS ELIMINATE BATCH PROCESSING—give faster, more economical production; reduce slow, costly manual handling.

ALL-METAL CONSTRUCTION IS HEATPROOF, COLDPROOF, ACIDPROOF—Cambridge belts can be woven from any metal or alloy to take sub-zero or up to 2100° F. temperatures, yet remain impervious to corrosive atmospheres or solutions.

OPEN MESH PROVIDES FREE AIR, LIQUID CIRCULATION—gives more uniform processing of product; grit, sand, quench solutions drain through belt immediately.

SPECIAL SURFACE ATTACHMENTS AVAILABLE—raised edges or cross flights hold product on belt during movement.

Ask your Engineering Department to contact your Cambridge Field Engineer soon. He's listed under "BELTING-MECHANICAL" in your classified phone book. He can recommend the belt size, mesh or weave, in the metal or alloy best suited to your operation.

Write for your PERSONAL COPY of 130-PAGE REFERENCE MANUAL illustrating ways in which other manufacturers have employed Cambridge belts, and including design information.

The Cambridge Wire Cloth Company

WIRE CLOTH | METAL-MESH CONVEYOR BELTS | WIRE CLOTH FABRICATIONS

Department C, Cambridge 4, Maryland

OFFICES IN PRINCIPAL INDUSTRIAL CITIES

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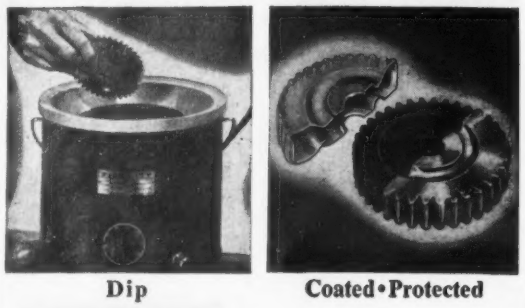
HOT MELT PLASTIC COATINGS for GEARS • TOOLS • PRECISION PARTS

BEFORE SECONDS AFTER



Dip Coated • Protected

DIP-PAK Protect vital, expensive tools, gears, and machined parts during storage and shipping with Fidelity's durable, transparent plastic coatings. Merely melt coating briquette, dip parts, cool. Lasts indefinitely. Tough; abrasive, moisture, rust resistant. To remove, slit, peel. Re-melt, re-use coating. Economical, practical, rapid. Protect parts; save money.

Write for Bulletins and Free Samples
Fidelity Chemical Products Corp.
479 Frelinghuysen Avenue, Newark 5, N. J.

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THE COMPLETE LINE OF

ALEMITE SURGEPRUF

HYDRAULIC HOSE AND REUSABLE COUPLINGS

...with a full line of components nationally available!

Fastest in-the-field replacement!

First choice for original equipment!

Single- and Double-Wire Hose for Medium-High Pressure and High-Pressure Service. Seamless inner tube of synthetic rubber, reinforced steel wire braid, and synthetic rubber outer cover. Resists abrasion, weather, and oil. Hose temperature operating range: −40°F. to +275°F.

Couplings. Made of high-strength steel. "Double-wedge grip" forces coupling threads through rubber cover . . . grips either single- or double-wire braid firmly. Saves both time and labor!

Adapters and Swivel Adapters. Full range of sizes in J.I.C. and other threads. One-piece adapters – and swivel union adapters to simplify assembly and avoid twisting strain in cramped quarters.

Hose Assemblies. Types and sizes for all hydraulic lines. No special assembly tools required. Fast, easy assembly with just ordinary tools!

Symbol of SW Excellence

ALEMITE
DIVISION OF
STEWART-WARNER CORPORATION

FREE! Mail Coupon for Surgepruf Catalog!

ALEMITE, Dept. HH-48
1850 Diversey Parkway, Chicago 14, Illinois
Please send me your catalogs of Surgepruf couplings, hose and components.

Name.....
Company.....
Address.....
City.....Zone.....State.....

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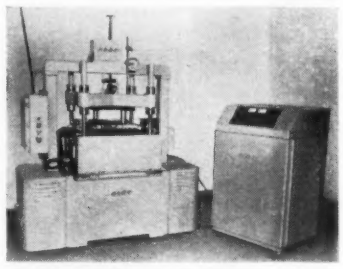
ELECTRICAL DISCHARGE MACHINE makes dies, shapes, holes, cavities

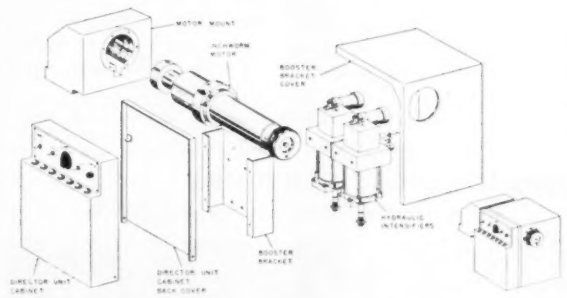


Dies for blanking, extrusion, powdered metal, heading, drawing, trimming, diecasting, and other uses can be made on the M-600 Series of electrical discharge machine tools. Capable of working hard-to-machine alloys, they are also suited for making air foil shapes, intricate-shaped holes, deep holes, and production runs of cavities or through-hole work. Three machine sizes can take work weighing up to 12,500 lb. Dies may be heat treated before cutting the impression, as hardness of the metal does not affect electrical discharge cutting. After the machine is set up, the actual cavity-making process is automatic. Made by **Elox Corp. of Michigan**, Dept. NED, 1838 N. Stephenson Highway, Royal Oak 3, Mich.

▲ For more details circle NED-383 D8 on enclosed inquiry slip ▲

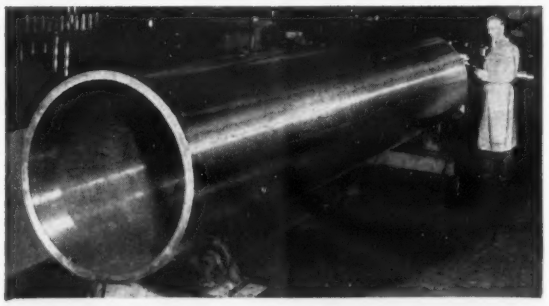
AUTOMATIC CONTROL SYSTEM controls machine tool feed from 0.000005 to 0.0001 in. under load

Heart of the Inchworm automatic control system for centerless grinders and other machine tools is the Inchworm motor, or linear actuator (*see NED, August* '56). It can be used to replace lead screws in mechanisms requiring micro-inch dimensional control from 0.000005 to 0.0001 in. The system utilizes feedback control to accomplish automatic size control. Information obtained from a Microtrol electronic gage is converted into control signals which are applied to the Inchworm motor to correct the machine.



It compensates for such machine variables as tool or wheel wear and thermal expansion. As each part is machined, its size is automatically compared to the desired size. If the two measurements differ, the equipment corrects the tool position to compensate for the error by actuating the Inchworm motor. Made by **Airborne Instruments Laboratory, Inc.**, Dept. D, 160 Old Country Rd., Mineola, N. Y.

▲ For more details circle NED-384 D8 on enclosed inquiry slip ▲



You'll find them better for pressure if they're

SHENANGO CENTRIFUGAL CASTINGS

WHATEVER the inside or outside pressures, Shenango centrifugal castings withstand them better.

Parts cast by the Shenango centrifugal process are much tougher because their finer, *pressure-dense* grain avoids stress concentrations while providing greater strength, better elongation and freedom from such costly defects as sand inclusions, blowholes and such.

Whether you need rings, rolls, sleeves, liners, bushings, bearings, mandrels or *any* annular or symmetrical part . . . ferrous or non-ferrous . . . in whatever shape, size or dimension . . . Shenango can do the job *better!*

For informative bulletins, it will pay you to write now to: *Centrifugally Cast Products Division*, The Shenango Furnace Company, Dover, Ohio.

SHENANGO CENTRIFUGAL CASTINGS

COPPER, TIN, LEAD, ZINC BRONZES • ALUMINUM AND MANGANESE BRONZES
MONEL METAL • NI-RESIST • MEEHANITE METAL • ALLOY IRONS

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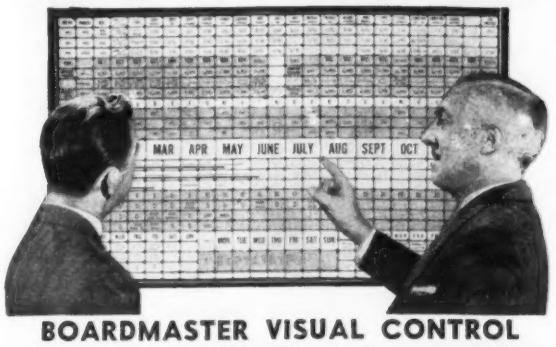
How To Get Things Done



BOARDMASTER VISUAL CONTROL

Gives you a Graphic Picture of your operations, spotlighted in color. You See what is happening at a glance. Facts at eye level—saves you time, prevents errors.

Simple, flexible—easily adapted to your needs. Easy to operate. Type or write on interchangeable cards, snap in grooves. Ideal for production, scheduling, sales, traffic, inventory, etc. Made of metal. Compact, attractive.

Complete Price $49.50 Including Cards

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GRAPHIC SYSTEMS 55 WEST 42ND STREET NEW YORK 36, N. Y.

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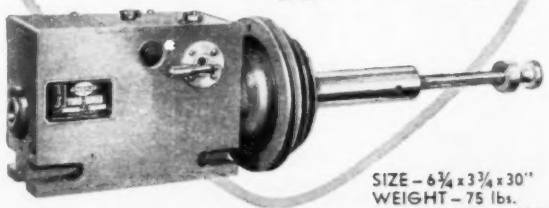
PRECISION BORING IN LIMITED SPACE

GREENLEE Model S-6 HYDRO-BORER



SIZE – 6¾ x 3¾ x 30"
WEIGHT – 75 lbs.
SPINDLE SIZE – 1¼"

Vertical, Angular or Horizontal Installations

Here's a low cost, compact, precision boring machine that combines versatility and accuracy! Bores to extremely close tolerances. Compact design makes it ideal for applications where space is at a premium. Mount it vertically, angularly or horizontally on workholding fixtures or assembly jigs. Patented feed principle assures high quality finish. Write today for further information!

GREENLEE
GREENLEE BROS. & CO.
2244 MASON AVENUE
Rockford, Illinois

▲ For more details circle NED-387 D8 on enclosed inquiry slip ▲

A **HOFFCO-VEYOR** SYSTEM PAYS ITS WAY AT **ARMOUR & CO.**

A HOFFCO-VEYOR pneumatic conveying system installation at an Armour & Co. glue plant solved their material handling problems and resulted in these money saving improvements:

- Instead of numerous units of bulky machinery, one compact Hoffman system serves the entire plant.
- Materials move in controlled quantities.
- Clean, dust-free pick-up and delivery prevents leakage into plant atmosphere.
- Working hazards are eliminated by enclosed equipment.
- Savings in labor costs pay for the equipment in a short time.

WRITE FOR BULLETIN FB 500

PNEUMATIC CONVEYING DIVISION
U.S.HOFFMAN MACHINERY CORP.
103 FOURTH AVENUE, NEW YORK 3, N. Y.

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PUMP LIQUIDS GASES SLURRIES

WITHOUT CONTAMINATION OR CORROSION

Wavelike Motion of Steel Fingers Forces Material Through Tubing

0.2 cc per minute to 4.5 g.p.m.
Prices $60.00 to $550.00
depending on size and accessories

Write for Descriptive Literature

SIGMAMOTOR, INC.
33 North Main St. • Middleport, N.Y.

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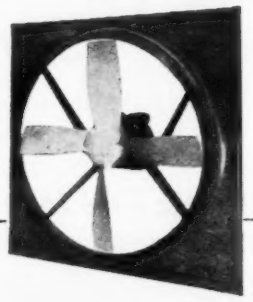
New fan combines power with quietness



R&M HUNTER

Write for literature and prices on the new R&M-Hunter heavy-duty "Q" Type Fans. Certified air deliveries from 2900 to 10800 CFM. Features include: a totally enclosed single-phase, permanent split capacitor motor; one-piece cast aluminum propeller in modern airfoil design; easily installed heavy steel frame with high-efficiency entrance ring.
HUNTER DIVISION - ROBBINS & MYERS, INC.
2630 Frisco Ave., Memphis, Tenn.

R & M-Hunter "Q" Type Fan

Backed by 75 years' experience

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Check COLONIAL RUBBER COMPANY for

- EXPERT COMPOUNDING
- ACCURATE PRODUCTION
- QUICK DELIVERY of

Industrial Rubber Parts

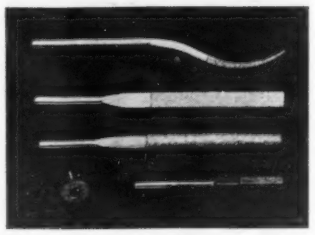
If you use molded rubber or silicone rubber parts in your products, you can use Colonial's services to advantage in one or more of the ways listed above.
Check us on your requirements, whether for compound development, parts production or both. Our rubber development laboratory, die-making machine shop and large rubber molding plant offer "packaged" service to help you reduce fabricating costs and improve product quality with COLONIAL industrial rubber parts. Write for more details, or send prints for prompt quotation.

1539A

COLONIAL RUBBER CO.
RAVENNA, OHIO

▲ For more details circle NED-391 D8 on enclosed inquiry slip ▲

DIAMOND FILES for die and mold making



Four shapes or cross-sections are available in these riffle files, particularly useful for die and mold making. Files are coated with 90-micron diamond particles which are permanently bonded in chrome deposit on a hardened steel core. They will cut carbides, ceramics, and hardened and alloyed steels. Made by **Engis Equipment Co.**, Hyprez Div., Dept. RR10, 431 S. Dearborn St., Chicago 5, Ill.

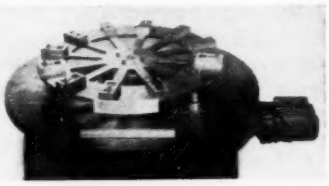
▲ For more details circle NED-392 D8 on enclosed inquiry slip ▲

AUTOMATIC DEMAGNETIZER articles slide through tube

Quick demagnetization of production parts or products before finishing or assembly is effected with this industrial tube type demagnetizer. Metal articles pass or drop through the 6-in. diameter tube. They are instantly demagnetized, and metal dust or particles are also removed. Magnetic field is gradually reduced toward the exit so that work will fall freely. Made by **R. B. Annis Co.**, 1105 N. Delaware St., Indianapolis 2, Ind.

▲ For more details circle NED-393 D8 on enclosed inquiry slip ▲

AUTOMATIC INDEXER has 8 to 24 stations



Geneva drive equipped with ball thrust and roller bearings is built into this horizontal automatic indexer. It has a 110-v, ¼-hp gear reduction drive and a Hilliard clutch equipped for one-revolution or continuous operation. Main cam shaft controls operations at individual stations. The welded base is up to 70 in. in diameter, the ground index table is up to 48 in. in diameter, and the ground index plate can have from 8 to 24 stations. Indexing accuracy is within 0.001 in. It can be used with power presses up to 6 tons, screw feeders, lead screw tappers, automatic parts feeder, magazine loaders, drill heads, and air presses and attachments. Made by **Garreau & Co.**, 349 Thames St., Newport, R. I.

▲ For more details circle NED-394 D8 on enclosed inquiry slip ▲

BOWSER

WHEEL TANK

QUICKLY TRANSPORTS AND ACCURATELY DISPENSES LIQUIDS IN SPECIFIC QUANTITIES

The Bowser Figure 121 Wheel Tank offers:

- Safe handling of combustible liquids
- Accurate dispensing in pt., qt., half gal. and gal. quantities
- Construction in accordance with U. L. Specifications
- Quick and easy transportation of liquids

Write for Bulletin 121 . . .

BOWSER INC. and get full details on application and advantages . . . plus complete specifications.

1381 E. CREIGHTON • FORT WAYNE, INDIANA

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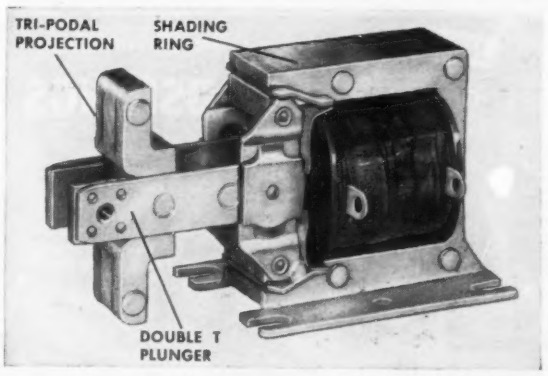

Soreng's NEW double T design solenoid packs more pull for more applications

Soreng's exclusive double T (TT) plunger construction makes the big difference. This unique design results in level, more powerful pull throughout the useful plunger stroke. And Soreng solenoids are more efficient — thanks to stable tripodal seating and tightly locked shading rings. These features are custom-built into each of Soreng's four basic solenoid types satisfying virtually any application need at production run prices.

Write for new Solenoid Bulletin. It contains drawings, power curves, applications and other technical data on Soreng solenoids.

CONTROLS COMPANY OF AMERICA
Manufacturers of SORENG Controls
9577 SORENG AVE., SCHILLER PARK, ILL.

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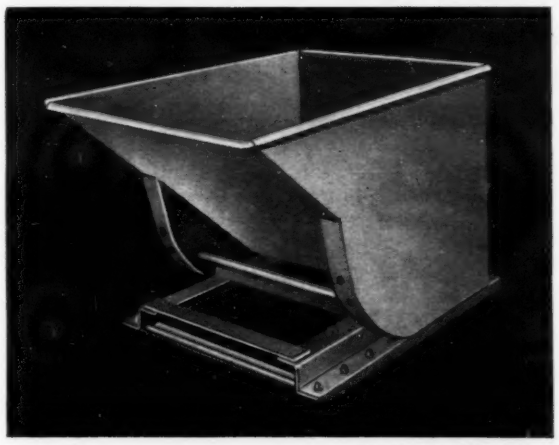

Model F1A Phil-Dump

Sturdy and Dependable for Dumping and Storing

Solidly built to take a beating when used with a platform or a fork lift truck, the F1A Phil-Dump saves time and money in the handling of a variety of bulk materials. This low-cost device dumps automatically and returns to upright locked position. It stacks easily and safely for storage either full or empty. Features are a non-slip fork slot in the pallet and a patented safety lock which prevents accidental dumping. Capacity is 1 cu. yd. Larger and smaller Phil-Dumps are available. Write for prices.

Ask about Salem-Brosius transfer cars

Write for information about Salem-Brosius industrial trailers

SALEM-BROSIUS, INC.
16 Arch Street • Carnegie, Pa.

PHILLIPS MATERIALS-HANDLING EQUIPMENT

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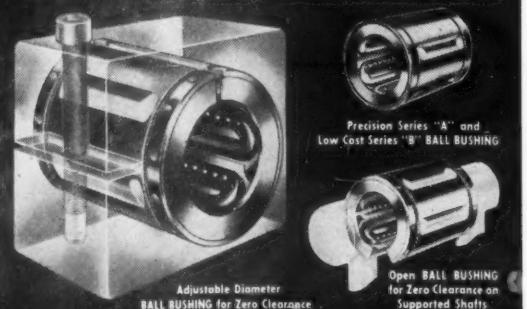
NOW! Adjustable Diameter and Open

THOMSON BALL BUSHINGS



The BALL Bearing for all your LINEAR MOTIONS

LOW FRICTION · ZERO SHAKE OR PLAY
ELIMINATE BINDING AND CHATTER
SOLVE SLIDING LUBRICATION PROBLEMS
LONG LIFE · LASTING ALIGNMENT

The various types cover a shaft diameter range of ¼" to 4". Small sizes available in Stainless Steel. Write for literature and name of our representative in your city.

THOMSON INDUSTRIES, Inc.
Dept. C. MANHASSET, NEW YORK

Also manufacturers of NYLINED Bearings ... Sleeve Bearings of DuPont NYLON

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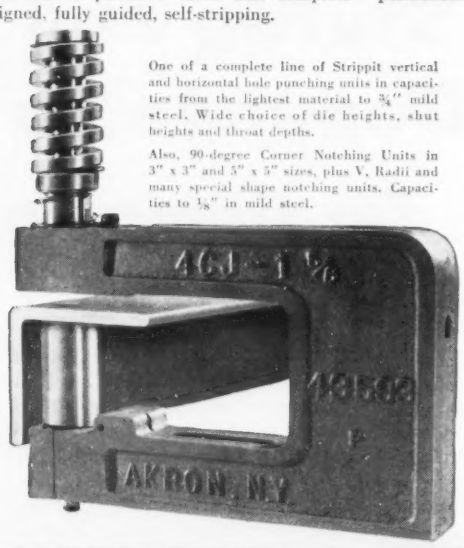
STRIPPIT *tooling versatility*

keeps presses working, not waiting!

Nothing to mount on the ram, nothing to align or adjust — just place your Strippit setup in the press and start the run. That's how Strippit versatility pays off. Any good bench man can mount these independent self-contained punching and notching units in any template pattern within press capacity. New Strippit setups can be kept ready for the press, virtually eliminating down-time.

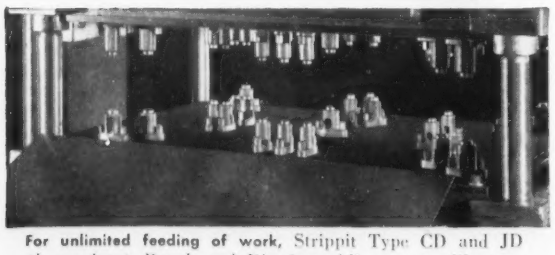
For flatwork, extrusions, structurals from the smallest gauge to 3/4" mild steel, Strippit gives you these extra advantages:

• The effect of quick-change dies without die-making or die-spotting • Speed over drilling — plus no deburring • Units re-usable over and over • Readily removable punches and dies • Ease, accuracy of template mounting — pilot pin centered on punch • Each unit complete — permanently aligned, fully guided, self-stripping.



One of a complete line of Strippit vertical and horizontal hole punching units in capacities from the lightest material to ¾" mild steel. Wide choice of die heights, shut heights and throat depths.

Also, 90-degree Corner Notching Units in 3" x 3" and 5" x 5" sizes, plus V, Radii and many special shape notching units. Capacities to ⅛" in mild steel.



For unlimited feeding of work, Strippit Type CD and JD (heavy-duty) Punch and Die Assemblies are readily template-mounted to press ram and bed in any desired pattern.

Write today for all details and a demonstration by a Strippit mobile unit at your plant.

Special tools made up to your specifications.
Warehouse facilities in Chicago and Los Angeles.

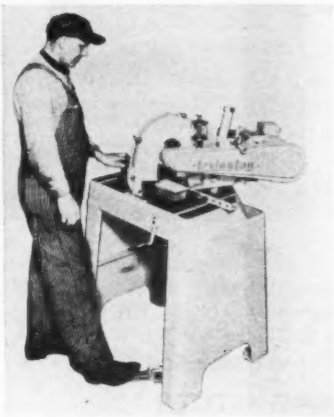
HOUDAILLE INDUSTRIES

WALES STRIPPIT COMPANY
227 Buell Road, Akron, New York

Manufactured in Canada by Strippit Tool & Machine Limited, Brampton, Ont.

▲ For more details circle NED-399 D8 on enclosed inquiry slip ▲

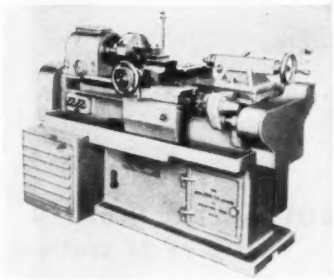
METAL CUT-DOWN SAW adjustable from 1000 to 4800 rpm



Versatility in miter and compound-angle cutting is provided by this 58 Cut-Down saw which features a 12-in. diameter saw or abrasive wheel. It produces smooth cuts and perfect angles essential to accurate joining of metal parts. Saw can be equipped with either fixed or movable guard, depending on material to be cut. Large surface-ground table has accurately milled fence slots and four T-slots. Arbor speed variation from 1000 to 4800 rpm enables machine to cut extruded aluminum and magnesium, ferrous and nonferrous metals, plastics, and rubber. Blade is driven by a "toothed" belt. Made by **Irvington Machine Works,** 1804 N.E. Seventh Ave., Portland 12, Oreg.

▲ For more details circle NED-400 D8 on enclosed inquiry slip ▲

THREADING MACHINE for internal and external work is cycled automatically

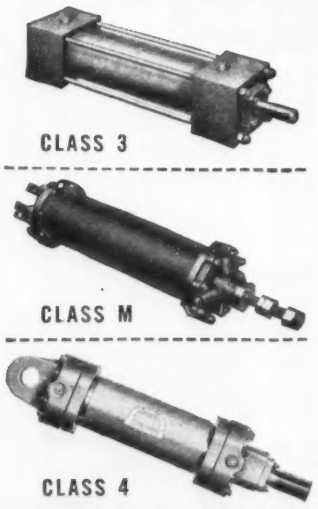


Capable of producing internal threaded pieces with diameters to 10 in. and up to 6-in. diameter external threaded parts, this Model B single point, high speed, threading machine is automatic and mechanically operated. Equipped with a 3-hp motor, it has 24-in. capacity between centers with a maximum swing over the cross slide of 6 in. and a 14-in. bed swing. The standard spindle with a 10-in. air or hand-operated chuck has infinitely adjustable speed ranges of 250 to 1000, 150 to 600, and 125 to 490 rpm, with special feeds optional.

Cycle is fully automatic. Skip feed mechanism will produce multistart threads of 2, 3, 4, 6, 8, and 12. This mechanism also controls the acceleration rate of feed. Conveniently located control facilitates carriage positioning. Spindle speeds are selected through an infinitely variable speed control. Options include quick changeover, worm gear drive to spindle, precision antifriction bearing mounted spindle, antifriction live spindle in tailstock, and motor-driven coolant pump. Made by **James Coulter Machine Co.,** Dept. T, 136 James St., Bridgeport 5, Conn.

▲ For more details circle NED-401 D8 on enclosed inquiry slip ▲

NOPAK Hydraulic Cylinders in 3 Classes of Construction



Representatives in Principal Cities

For the Efficient Application of Fluid Power

NOPAK Cylinders for oil or water hydraulic service at line pressures from 450 to 2000 PSI are available in 3 classes of construction to meet your varying needs:

CLASS 3 — Square Head with Tie Rods — Latest addition to the NOPAK Cylinder line . . . Compact construction with square heads of steel plate. Honed steel tubing. Nominally 1000 PSI —to 1500 PSI in the smaller diameters. Dimension Data Sheets now available.

CLASS M — *Mill or Mine Type* — Rugged steel tubing with welded flanges eliminates tie rods. Heads attached to flanges by cap screws or thru bolts. Recommended for all *heavy duty* applications at line pressures up to 650 PSI. Write for Catalog 101.

CLASS 4 — *High pressure Hydraulic* — Heavy honed steel tubing with lock-ring flange. For oil or water hydraulic service at pressures to 2000 PSI. Write for Catalog 104.

GALLAND-HENNING NOPAK DIVISION
2755 SOUTH 31st STREET • MILWAUKEE 46, WISCONSIN

NOPAK
VALVES and CYLINDERS
for AIR and HYDRAULIC SERVICE

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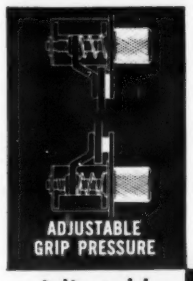

FOR ECONOMY— STANDARDIZE ON SOUTHCO ADJUSTABLE PAWL FASTENERS

For most frame or door thicknesses, just one size SOUTHCO pawl fastener with variable grip length can be used. Delivered pre-assembled; just drill three holes and install. Available in midget, intermediate or large sizes with a variety of head styles.

- *Adjustable grip distance*
- *Adjustable grip pressure*
- *One size fits many panel thicknesses*

SEND FOR *FREE* FASTENER HANDBOOK

Write to: Southco Division, South Chester Corp., 243 Industrial Highway, Lester, Pa.

SOUTHCO FASTENERS LION

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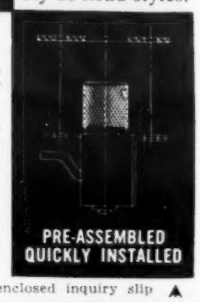

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NEW from CESCO!

Plastic and Metal Frame Safety Glasses with *Side Shields*

First in smart styling... first in all-around eye protection, these popular CESCO plastic and metal frame glasses with side shields look like attractive personal glasses, yet protect like the most rugged safety glasses. All-in-one plastic section performs double duty as lens rim and Comfort Bridge pad. Full closure at nose section plus wire mesh side shields give eyes protection from any angle.

In 2 sizes • 46 x 39mm (No. 336) • 48 x 41 mm (No. 338)
Shape of Lens • F-7 in clear and anti-glare safety glass and Cescolite plastic
4 Bridge Sizes • 20, 22, 24 and 26 mm

***ASK** your distributor to show you his complete line of CESCO head and eye protective equipment. There's a CESCO distributor located in most major cities coast-to-coast.*

CESCO FOR SAFETY

CHICAGO EYE SHIELD COMPANY
2715 W. Roscoe St., Chicago 18, Illinois

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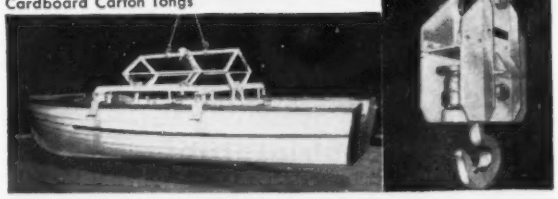
Lifting problem? Transfer problem?

Double "C" Hook Pallet Lifter

Motorized Rotating Crane Hook

Cardboard Carton Tongs



Automatic Tongs for Objects of All Shapes, Sizes

If it hangs from a crane...

HEPPENSTALL CAN HANDLE IT

Eliminate production bottlenecks—Heppenstall Tongs speed work from one operation to the next, hold it at advantageous working angle, carry finished products to shipping or storage areas. *Conserve space*—Heppenstall Tongs permit close, high stacking of raw materials and finished inventory with minimum aisle space.

Send today for additional information on Tongs for every lifting operation, or tell us your special problem and we'll help you with custom designs.

HEPPENSTALL COMPANY
501 Sixteenth Street, New Brighton, Pa.

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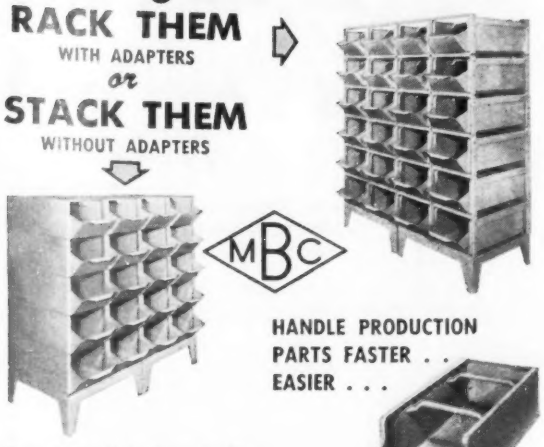
Bathey VERSATILITY!

TOTE AND STORAGE PANS

RACK THEM WITH ADAPTERS or STACK THEM WITHOUT ADAPTERS



HANDLE PRODUCTION PARTS FASTER . . EASIER . . .

From Large Tote Pans to Tiny Bins . . . We Engineer Complete Parts Handling Systems.

Typical Pan — Rugged Construction . . . Easy to Handle.

Send for Catalog B-10

BATHEY MFG. CO.
106 S. MILL STREET PLYMOUTH, MICH.

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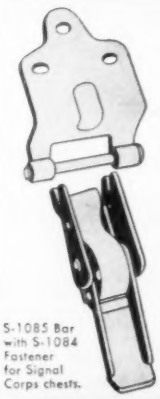

S-1085 Bar with S-1084 Fastener for Signal Corps chests.

for transit case and chest hardware to exact government specifications

see

J. H. SESSIONS & SON

Write for catalog of hardware for Air, Signal and Engineer Corps Transit Cases and Chests, and other applications where government specifications must be met.

J. H. SESSIONS & SON
289 RIVERSIDE AVE., BRISTOL, CONN.

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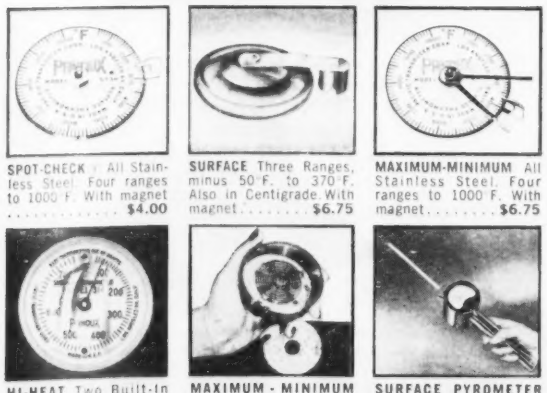
PANDUX THERMOMETERS

Write for FREE temperature conversion chart...C to F and F to C O°K. to 5612°F.

CHECK any SURFACE TEMPERATURE!



SPOT-CHECK All Stainless Steel. Four ranges to 1000°F. With magnet $4.00

SURFACE Three Ranges, minus 50°F. to 370°F. Also in Centigrade. With magnet $6.75

MAXIMUM-MINIMUM All Stainless Steel. Four ranges to 1000°F. With magnet $6.75

HI-HEAT Two Built-In Magnets. 50°F. to 750°F. $6.75

MAXIMUM - MINIMUM RECORDING With replaceable Chart. Minus 50°F. to 250°F. $19.50

SURFACE PYROMETER 10" Surface Tip. Two ranges to 2300°F. Complete $57.00

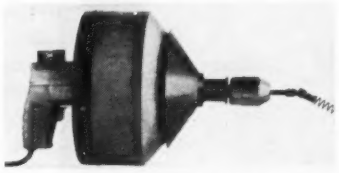
OTHER PANDUX THERMOMETERS: Stainless Steel Stem Dial Type regular and with maximum-minimum hands; Glass Mercury Immersion Types for production and laboratory.

Order through your dealer or write factory for complete catalog ND-48

PACIFIC TRANSDUCER CORP. 11836 W. Pico Blvd. Los Angeles 64, Calif.

▲ For more details circle NED-408 D8 on enclosed inquiry slip ▲

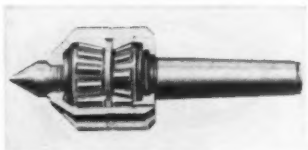
ELECTRIC DRAIN CLEANER
has left or right reversing switch



Conveniently located direction reversing switch is built into the Flexi-Handi-Roder, a compact, lightweight, easy-to-use electric drain cleaner. It has bronze Oilite or ball bearings throughout, a Jacobs Hand-Tite chuck, and a built-in ac-dc drill motor with a load speed of about 200 rpm. Weight is 8½ lb, less snake. Either ¼ or 5/16-in. flexible snakes can be used. Drum capacity is 35 ft of the larger snake. Made by **Flexible Plumbertools, Inc.**, 3782 Durango Ave., Los Angeles 34, Calif.

▲ For more details circle NED-409 D8 on enclosed inquiry slip ▲

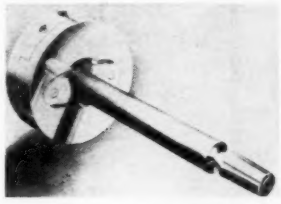
LIVE CENTERS
have replaceable center point



Mounted on Timken heavy duty tapered roller bearings, improved live centers will absorb extreme thrust and heavy radial loads with minimum wear, and make possible heavy cuts at high turning speeds. Center life is prolonged by a built-in adjustment for preload and take-up for bearing wear. Lubrication is required only once yearly as an O-ring seal prevents entry of cutting oils, chips, and dirt into the bearing housing. Replaceable center points of male, female, pipe, or other design can be used. All points are heat treated chromium steel. Made by **Trio Machine & Mfg. Co.**, 35700-N Vine St., Willoughby, Ohio.

▲ For more details circle NED-410 D8 on enclosed inquiry slip ▲

WORK DRIVER
serrated jaws grip work securely



Self-centering Work Driver for use on any engine lathe, multiple tool lathe, or plain or universal grinder features serrated jaws milled on an angle for secure grip on work. Jaws tighten automatically in relation to depth of cut, and the harder the pull, the tighter the grip. A balanced and guided jaw slide is free to adjust itself to reasonable eccentricity between center and outside diameter. Adapter plate type driver body with recessed back is mounted on spindle by means of adapter or chuck plate. The direct mounting type mounts on American standard A-2 spindle noses. Eighteen standard sizes accommodate work diameters from ¼ to 6⅞ in. Made by **Seneca Falls Machine Co.**, 10 Fyfe Bldg., Seneca Falls, N. Y.

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this FREE bulletin tells you all about the new WATLOW FIREROD CARTRIDGE HEATER

All About:

- An amazing concentration of heat in 1/5th the space of ordinary units.
- Tests that prove longer operating life at higher watts densities — 5 to 10 times the life of ordinary units.
- Methods for determining your operating needs (charts, etc.) . . . for all this, and more —

Write for your free copy now!

WATLOW
ELECTRIC MANUFACTURING CO.
1374 Ferguson Avenue
Saint Louis 14, Missouri

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10 power FLAW FINDER

Quick-focusing illuminated magnifier—removable handle is a pocket flashlight. $8.95—with leather case, $12.45

40-50-60 power "PEN" MICROSCOPE

Pen size precision instrument with magnification equal to large lab models. With leather case, $17.50

Orders shipped immediately

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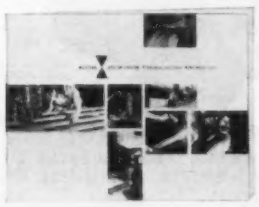
We'll make it from ALUMINUM!

JAMMED UP? Alcoa's Jobbing Division can shake you loose on complicated or long-run jobs in fabricated aluminum. Complete engineering-fabricating facilities, backed by world's largest research organization. Also many standard products: shipping drums, vessels, tote boxes, pallets, phone booths, farm gates, floats, electronic cabinets, process equipment, welded tubes, tanks.

SEND FOR FREE BOOKLET TODAY

Fully illustrated 16-page booklet describes in detail Alcoa's unmatched facilities for welding, rolling, brake forming, bending, spinning, finishing, testing, complete engineering-fabricating services.



Your Guide to the Best in Aluminum Value

ALCOA ALUMINUM

"ALCOA THEATRE" Exciting Adventure Alternate Monday Evenings

ALUMINUM COMPANY OF AMERICA
1951-D Alcoa Building
Pittsburgh 19, Pa.

Please send my free copy of "Alcoa Aluminum Fabricating Facilities."

Name_____ Title_____
Company_____
Street Address_____
City_____ State_____

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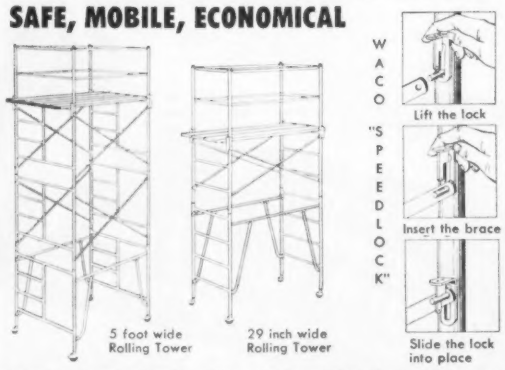
WACO ROLLING MAINTENANCE TOWERS SAFE, MOBILE, ECONOMICAL



WACO ROLLING TOWERS, with either a 29 inch or the 5 foot wide base, easily handle those "off the floor" jobs of maintenance, painting, cleaning or new installation. Waco's exclusive "Speedlock" saves you money too, by cutting the time involved in erecting and dismantling these units.

WACO ROLLING TOWERS are available in multiples of five foot heights with built-in ladders. Waco rolling towers move on heavy duty free wheeling casters with an easy locking brake.

WACO ROLLING TOWERS can also be fitted with straddle braces in place of cross braces, allowing fixed objects to be straddled or providing free passageway for traffic.

For more information on Waco Rolling Towers send for Waco's FREE Scaffolding Catalogue, or check yellow pages of your phone directory for your nearest Waco distributor.

WACO MANUFACTURING CO.
5251 W. 130th Street
Cleveland 30, Ohio

▲ For more details circle **NED-415 D8** on enclosed inquiry slip ▲

▲ For more details circle **NED-416 D8** on enclosed inquiry slip ▲

EASTERN CENTRIFUGAL JOB-RATED PUMPS

Original equipment manufacturers have chosen the Eastern D-11 Centrifugal Pump for 24,897 successful installations. With eighteen pounds of compact design (9¾" x 4⅝"), this close-coupled, single-stage centrifugal pump with induction type motor provides an ideal job rating for many installations.

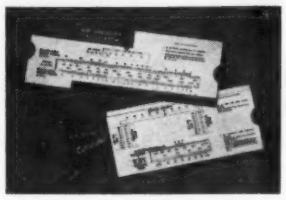
The D-11 and other Eastern Centrifugal Pumps are available in 18-8 Type 303 and Type 316 Stainless Steel, Monel, Hastelloy "C", Cast Iron and Bronze. They range from ⅛th to ¾ H.P. with capacities up to 70 G.P.M., pressures to 65 P.S.I.

SEND FOR BULLETIN 1204R

Eastern INDUSTRIES, INC.
100 SKIFF ST., HAMDEN, 14, CONN.

▲ For more details circle **NED-417 D8** on enclosed inquiry slip ▲

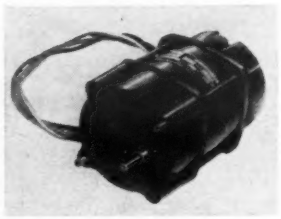
AIR VELOCITY CALCULATOR for air conditioning, heating use



Front side of this sliding-scale air velocity calculator shows air velocity corresponding to impact pressure from 0.01 to 10 in. of water, compensated for air density. Back side provides a means of determining exact air density with corrections for relative humidity, dry bulb temperature, and barometric pressure. Direct readings appear in small plastic windows of the 3 x 8-in. pocket-size calculator. Available free of charge from **F. W. Dwyer Mfg. Co.**, Dept. NDC, Box 373, Michigan City, Ind.

▲ For more details circle **NED-418 D8** on enclosed inquiry slip ▲

SUBFRACTIONAL HP MOTOR with and without gear reductions



Variable speed, subfractional horsepower, direct current motor is available in two standard models. RBD-2505 model is rated 0.5 oz-in. torque, 115 v dc, 1800 rpm, 10 w. Model RBD-2510 is rated 1.0 oz-in. torque, 1800 rpm, 15 w. Motor is also offered for 25 to 115-v operation with speeds from 900 to 3600 rpm. Speed of the RBD-25 shunt-wound motor is varied by varying the armature voltage. Motor will be offered with gear reductions in standard ratios from 3:1 to 3600:1. Made by **National Pneumatic Co.**, Holtzer-Cabot Motor Div., Dept. N, 125 Amory St., Boston 19, Mass.

▲ For more details circle **NED-419 D8** on enclosed inquiry slip ▲

HYDRAULIC PALLET TRUCK various capacities and form lengths

Hydraulic elevating pump of the Multiton Steinbock hydraulic pallet truck is hand-actuated through the steering handle. The West German - made truck is offered in six models with 2200, 3500, and 4400-lb capacities, steel or rubber-tired wheels, lift of 4⅓ in., and a variety of fork lengths. A pressure relief valve protects against overloading and a throttle valve keeps lowering speed constant, regardless of load. Truck has tapered roller bearings in the trailing casters and ball bearings in the handle-steered wheels. Available from **Stokvis-Edera & Co.**, Dept. 16J, 18 Secatoag Ave., Port Washington, N. Y.

▲ For more details circle **NED-420 D8** on enclosed inquiry slip ▲

▲ For more details circle **NED-421 D8** on enclosed inquiry slip ▲

Faulty maintenance and inadequate accessories often reduce the value of conductive flooring to zero.

Specialists In Conductivity Since 1934

Ordinary cleaners, waxes and seals insulate the surfaces of floors from personnel and machinery, causing loss of contact. That's why HUBBELLITE, CONGOLEUM-NAIRN and other leading makers of conductive flooring recommend the *exclusive* use of LEGGE materials. They *retain* conductivity, guarantee that your building conforms to the requirements of NFPA Code #56 and other codes in force.

Since 1934, LEGGE has pioneered in developing these products as well as anti-static devices for personnel, equipment and machinery. If you have a static problem, don't fail to write for our descriptive booklet, "One Little Spark". The need is urgent.

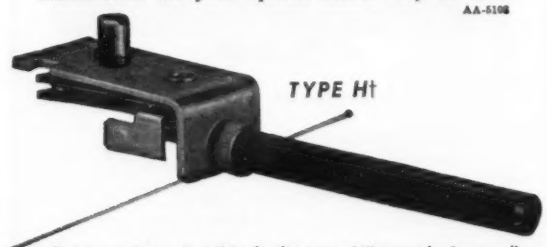
Walter G. LEGGE Company, Inc.
Dept. ND-4, 101 Park Ave. N. Y. 17, N. Y.
Branch offices in principal cities.

▲ For more details circle **NED-422 D8** on enclosed inquiry slip ▲

When you plan your product look to **STEMCO THERMOSTATS** *first*

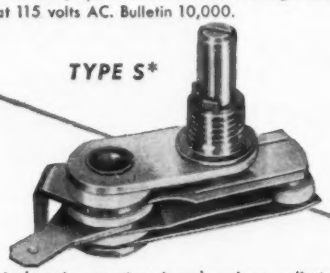
With competitive conditions ahead, you're probably reappraising your product line. Or completely redesigning. Either way, that's the time to look into the Stemco thermostat line. Strip or disc types . . . positive or snap acting . . . adjustable or non-adjustable . . . virtually any type of terminal arrangement or mounting provision. No other line of bimetal thermostats has as many styles in production. This, combined with Stevens application engineering service, means you profit from important savings in being able to use production line Stemco thermostats for your special needs. Try us *now*.

AA-5108



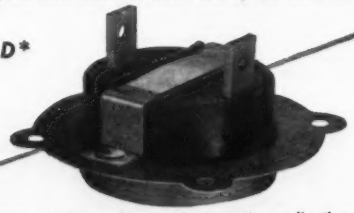
TYPE H†

Positive acting, adjustable, for fry pans, skillets, and other appliances. Fail-safe, open in low to 500°F in high. Rated at 1650 watts at 115 volts AC. Bulletin 10,000.



TYPE S*

Adjustable (nozzle mounting shown) and non-adjustable styles. Positive-acting. Operation to 600°F. Rated at 15 amps at 115 volts AC; 7 amps at 230 volts AC. Screw and spade terminals. Bulletin 1000.



TYPE D*

For laundry dryers or other surface and warm air applications. Snap-acting disc type UL approved for operation to 300°F. Rated at 25 amps at 120-240 volts AC. Open or enclosed styles. Bulletin 8000.

*Refer to Guide 400 EO for UL and CSA approved ratings.
†Patent Applied For

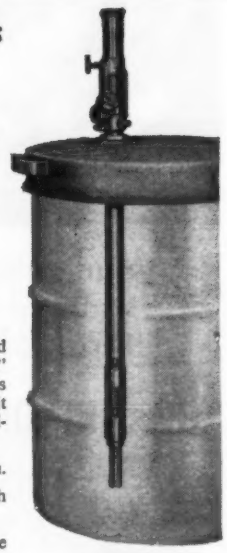
STEMCO THERMOSTATS

STEVENS *manufacturing company, inc.*
Lexington and Mansfield, Ohio

▲ For more details circle **NED-423 D8** on enclosed inquiry slip ▲

All New... from Binks

17½ lb. material handling pump supplies up to 4 spray guns



Binks new "Pogo" bung-type air-operated material handling pump is "lightweight" in pounds only. In all other respects it is a rugged, dependable performer. With it you can spray finishes and coatings direct from shipping drum to product.

- Fits 2" bung hole of 55 gallon drum.
- Fastens to rim of open container with auxiliary clamp.
- Pump and agitator are available mounted on a portable drum cover. Many combinations available.
- Needs no lubrication.

Binks EVERYTHING FOR SPRAY PAINTING

For all the facts ask your Binks representative, industrial distributor or write for Bulletin 707.

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BURNS TRASH SAFELY OUTDOORS

Only $110.00 COMPLETE

NO INSTALLATION COST

Burn wrappings, sweepings, papers, cartons, packing, rags, food waste, safely outdoors. Scientific draft control ends fire hazards of flying ash, sparks, burning blowing papers. Burns damp, green, or dry refuse to fine ash in any weather. Minimizes smoke and smell, needs no watching. Safe for use 10' from buildings. Stands 52" high x 35" square at base. 10 bushel burning capacity. Complete with hinged hood, ash pan base and grate and cleanout door. Made of aluminized steel (molten aluminum bonded to steel) with replaceable inner steel panel construction for long life. Shipped assembled—weight 170 lbs. Only $110.00 F.O.B. Cleveland. Satisfaction guaranteed. Other sizes available.

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ALSTO COMPANY
Dept. NE-4 4007 Detroit Ave. Cleveland 13, Ohio

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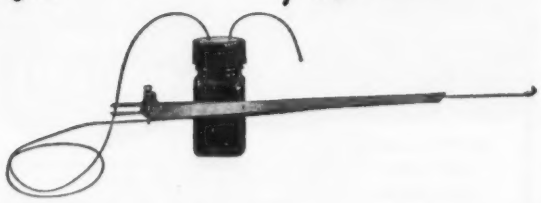
ARCCO CANNON *NEVER-DRY* PEN

Writes for Months



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Regardless of pulsations or other causes of ink failures this new Never-Dry Pen will make clean and complete records. Ink supply lasts for several months without refilling reservoir. Capillary tube from ink bottle placed in instrument case feeds pen with continuous flow. Closed system sealed from atmosphere prevents clogging and dirt accumulation.

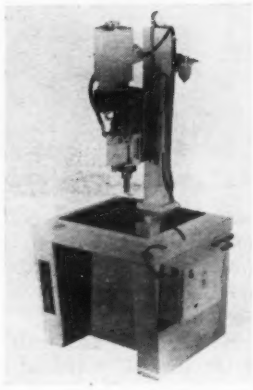
Weight of pen is constant at all times thus insuring extreme accuracy. No slopping or dripping. Stainless steel construction—no corrosion. When ordering, specify make and type of recording instrument.

AMERICAN RECORDING CHART CO.
3113 E. 11th St. • Los Angeles 23, Calif.

$6.00 each Net
Send for quantity prices

▲ For more details circle NED-426 D8 on enclosed inquiry slip ▲

AUTOMATIC DRILL PRESS for production drilling and tapping on one to four automatic units



One to four Model 24 Holomatic drill units are incorporated in the Holomatic automatic drill press, a standard machine for high production drilling, tapping, and other machining operations. It has air and electric power and cycle control systems. All components are mounted, wired, and air-plumbed ready for operation.

The Holomatic tool feeding device uses shop air line pressures for thrust and a self-contained, sealed, hydraulic system for spindle travel control. Rapid travel movements, feed rates, and stroke length are adjustable in advance and retract motions. It has a 4-in. stroke, 2-hp capacity, and can hold depths within 0.0005 in. Spindle speeds range from 190 to 10,000 rpm.

Machine base incorporates a coolant pump-reservoir. The 44-in. high columns afford adjustment of spindle from table level to 26 in. above the table. Throat depth can be 4½ or 9 in. Made by **Hause Machines, Inc.**, 809 S. Pleasant St., Montpelier, Ohio.

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HOPPER FEEDER is air operated, high suction unit with capacities from 2 to 25 cu ft

Fluid materials, either wet or dry, are transferred quickly and efficiently from bulk bins or containers into processing machinery or vice versa by means of this Vac-U-Max air operated, high suction hopper feeder. It is applied to process equipment with a simple adapter or shaped cover to fit existing charge port, manhole, or other opening. This permits discharge of material into equipment which must be airtight and capable of withstanding a vacuum.

Where existing equipment is open, the hopper feeder is adaptable for pickup and transfer of materials into other equipment only. Standard sizes range from 2 to 25 cu ft. Discharge rate is adjustable. Because equipment is air operated, it is safe to use in hazardous locations or atmospheres. Internal filters prevent excessive abrasion or wear. Made by **Vac-U-Max**, 11 Montgomery St., Belleville 9, N. J.

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THE ALL NEW K-LENS-M SKYSCRAPER

GOGGLE CLEANING STATION

Mounts in space approximately 4⅞" wide by 28¼" high.

Greatly reduces maintenance time — holds 1400 K-LENS-M Tissues (7 boxes — 200 sheets each, interfolded) and a full 16 oz. bottle of K-LENS-M Lens Cleaner.

The **WILKINS Co.**, Inc.
Cortland 32, N. Y.

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Beautiful South Shore Inn, on Lake Wawasee, Syracuse, Indiana, operated by Jones Hotel System

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says R. A. Neilsen, manager

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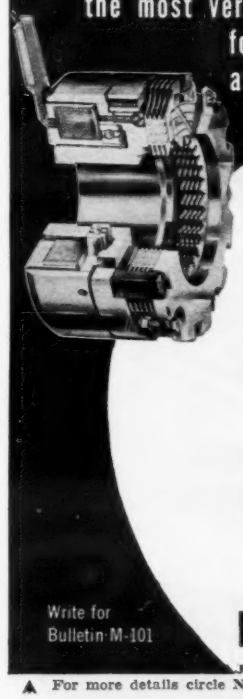
the most versatile electric clutch for machine tools and automatic machinery!



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- faster "decay time"
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- compact
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- sizes from 2" to 13" diameter
- torque ratings from 36 to 48,000 in.-lbs.

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FAWICK CORPORATION
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Write for Bulletin M-101

FAWICK Magnetic
INDUSTRIAL CLUTCHES AND BRAKES

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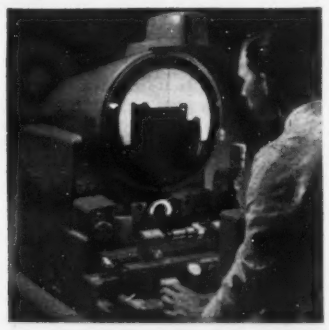

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Apparatus and Optical Division
EASTMAN KODAK COMPANY, Rochester 4, N. Y.

the KODAK CONTOUR PROJECTOR

Kodak TRADE MARK

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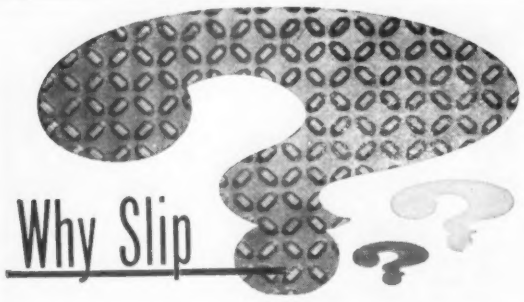

...when there's USS Multigrip

Eliminate dangerous—and potentially costly—slippery areas in your plant with USS Multigrip Floor Plate. You can do this because Multigrip Floor Plate has clean-edged, flat-topped risers that give positive traction to feet and wheels. These tough steel plates won't chip, crack or splinter and they're kept clean with hose or broom. On ramps, stairs, aisles, platforms, or floors—wherever you need durability plus safety . . . you need Multigrip Floor Plate. It's available in large plates, eliminating installation waste. United States Steel, 525 William Penn Place, Pittsburgh 30, Pa.

USS and Multigrip are registered trademarks.

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USS United States Steel

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MANUFACTURERS OF ELAPSED TIME COMPUTERS FOR OVER 65 YEARS.

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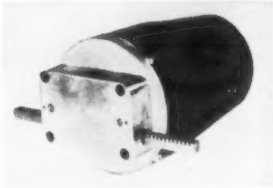
LINEAR ACTUATOR thrusts with up to 1000-lb force and is accurate to 0.004 in.

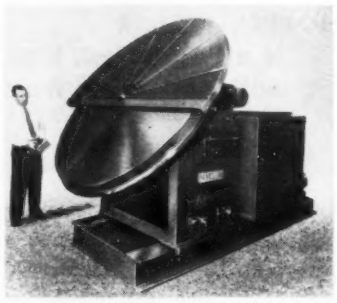


Precision Lineatrol linear positioner is designed for nuclear control, machine tool control, and other positioning uses where linear motion must be proportional to a control signal. Device is a gear motor with built-in potentiometer to produce remote indication of position, or for use in automatic control circuits. With precision multiturn potentiometers, positioning accuracies of ±0.004 in. in a 10-in. stroke are possible.

When furnished with suitable controller, linear position can be governed by a control signal from any transducer. Output is through rack and pinion with thrust forces up to 1000 lb and with a variety of stroke lengths. Controls are available with single-phase 115-v or three-phase 220/440-v motors, or for two-phase control circuits. Open, totally-enclosed, and explosion-proof enclosures are obtainable. Made by **Jordan Co.**, Dept. NED, 3235 W. Hampton Ave., Milwaukee 9, Wis.

▲ For more details circle NED-435 D8 on enclosed inquiry slip ▲

DRILLING POSITIONER handles weldments up to 6000 lb



A 7-ft 4-in. diameter table with machined T-slots enables this accurate drilling positioner to position weldments weighing up to 6000 lb for drilling and milling operations. Positioner is rated at 5-in. overhang, 22-in. eccentricity, and will withstand a 1000-lb drill force at the table edge in any direction. Features include two-speed tilt and rotation drives, 36-in. powered horizontal travel, manual shot pin locators on table rotation with friction brake for intermediate positions, scale to mark table in degrees, and a protractor to register degree of tilt. Pushbutton controls are mounted on pendant station. Made by **Pandjiris Weldment Co.**, 5155 Northrup Ave., St. Louis 10, Mo.

▲ For more details circle NED-436 D8 on enclosed inquiry slip ▲

Aluminum Specs & Bending Data

Peter A. Frasse & Co.—Both Government aluminum specifications and information on bending and forming of aluminum sheet and plate are covered in Sec. G, No. 1 chart. It shows chemical analysis requirements for Federal and military specs, as well as specified forms. Printed on cardboard stock, chart is regular file card size.

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IRONBOUND SKIDS

Full range of sizes, types, capacities, underclearances!

Bolted and welded construction of C-type skids feature easy deckboard replacement.

Ironbound — IRONBOUND

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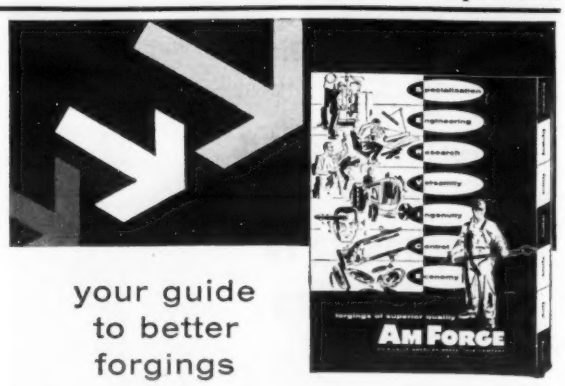

your guide to better forgings

the AmForge Catalog

To give you savings and improve your product it will pay your company to consider forgings. You'll find the facts about forgings in this 16-page AmForge catalog. This compact book provides you with helpful information on drop, upset and press forgings. It gives you an inside view of AmForge facilities. You see how quality forgings are produced by our research, engineering and die-making departments.

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American Brake Shoe Company — AmForge Division

Plants: Chicago, Ill. (two) • Azusa, Calif.

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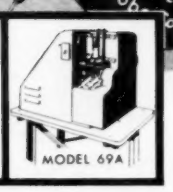
FAST, CLEAR COMPONENT MARKING with MARKEM MACHINES



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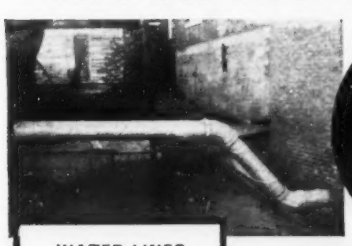

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MODEL M

Model L at right shown on stand. 7 interchangeable gauges provide wide range. All equipped with max. indicator. Model M at left is pendulum type. Has 5 scales. Meets ASTM & Fed. specs.

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MODEL L

W.C. Dillon & CO., INC.
14578NE Keswick St., Van Nuys 1, Calif.

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centrifugal or sand cast

Stainless steel shaped to your order. Complete foundry and factory facilities are at your service—for fabricating a part or finished product. Over 80 years of metal know-how.

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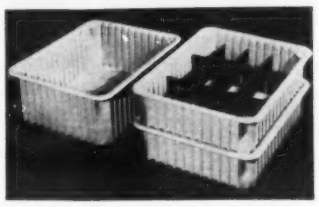
▲ For more details circle NED-443 D8 on enclosed inquiry slip ▲

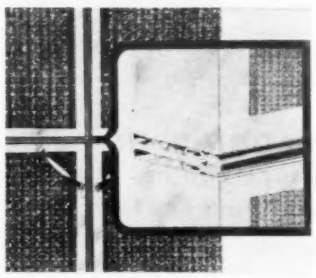
PLASTIC TOTE BOXES have adjustable dividers



Adjustable dividers insert into ribbed wall indentations of Modubox tote boxes to form separate compartments from 1 in. square up to full box size. They are available in over 60 standard sizes and depths, or can be custom-made to specification. Boxes are made of U. S. Royalite, a durable, unbreakable, acid and oil-resistant rubber-based plastic. Rolled edges provide a sure grip. Most of the boxes stack when full or nest when empty. Made by **Hollywood Plastic Arts, Inc.**, Modu Box Dept., 515 E. Ninth St., Los Angeles 15, Calif.

▲ For more details circle NED-444 D8 on enclosed inquiry slip ▲

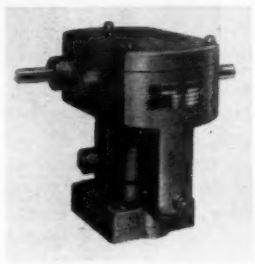
GASKETED FILTER BANK has seal between filter and frame



Polyvinyl chloride gasket provides a dust-tight seal between the filter and Seal Tight filter-holding frame. The gasket pressure-locks the filter into the frame and molds itself to the filter contour. Gasket is unaffected by oil or moisture and will not support combustion. Frames of enamel finished, heavy gage steel fasten in three places on each side with machine screws and self-locking nuts. Made for use with Evans all-aluminum Lifelong air filter by **George Evans Corp.**, 3650 River Dr., Moline, Ill.

▲ For more details circle NED-445 D8 on enclosed inquiry slip ▲

HYDRAULIC GOVERNOR for gasoline or diesel equipment



Speed control of gasoline or diesel engine-driven generator sets, compressors, arc welders, boats, trucks, tractors, hoists, and other engine-driven equipment is function of the Type 4300 hydraulic governor. The compact, lightweight unit of the speed droop, lever type is usable for variable or constant speed service. It uses engine lubricating oil as the pressure medium at a minimum input pressure of 5 psi. Unit provides immediate response to load change and regulates within ¼ per cent. Governor weighs 10½ lb, is 6⅛ in. high, has a work capacity of 12 in.-lb, and has an optimum operating speed of 2400 rpm. Made by **Farris Pickering Governor Co.**, 551 Commercial Ave., Palisades Park, N. J.

▲ For more details circle NED-446 D8 on enclosed inquiry slip ▲

Outstanding Team OF VERTICAL AIR GRINDERS

The Cleco 1500 Series Grinder packs great power for its size . . . does 6" cup wheel grinding at 4500 and 6000 RPM. Ideal for general abrasive and cleaning operations . . . particularly prized as edge grinder (7" cut-off wheel capacity).

For those extra-heavy-duty jobs, the Cleco 2000 Series Grinder is your tool. It delivers terrific power at 4500 and 6000 RPM with a 6" cup wheel or 9" cut-off type wheel.

A variety of wheel guards is always optional, including Cleco's super-safe integral revolving type and the straight cutaway (not illustrated).

Write for brochures, catalog, or a try-out in your plant.

CLECO AIR TOOLS

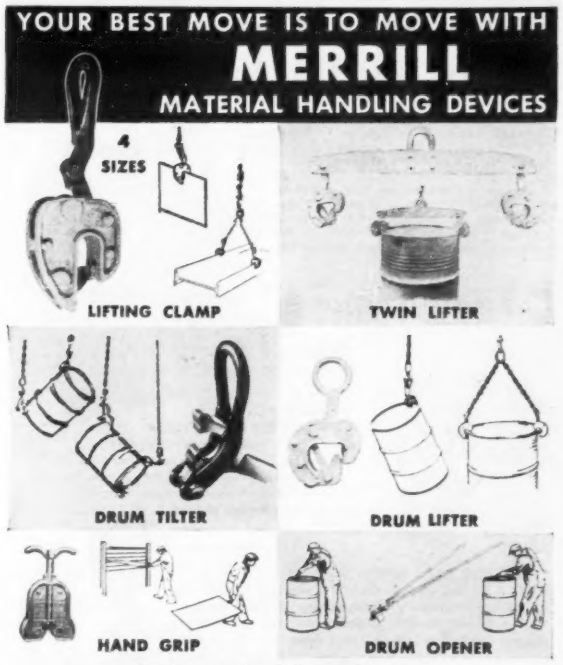
Division of REED ROLLER BIT COMPANY
P. O. BOX 2119 • HOUSTON 1, TEXAS

IN CANADA: Cleco Pneumatic Tool Company of Canada, Ltd. 927 Millwood Road, Leaside (Toronto), Ontario

112

▲ For more details circle NED-447 D8 on enclosed inquiry slip ▲

YOUR BEST MOVE IS TO MOVE WITH
MERRILL
MATERIAL HANDLING DEVICES

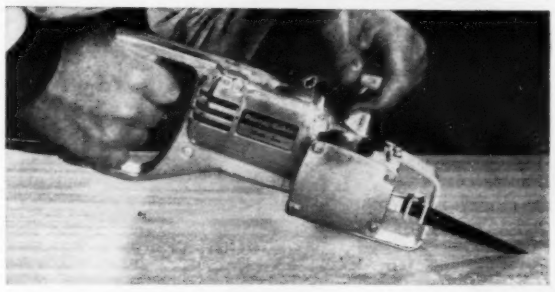


For Interesting Information write

MERRILL BROTHERS
56-13 Arnold Ave., Maspeth, N. Y.

3-R-5

▲ For more details circle NED-448 D8 on enclosed inquiry slip ▲



Brand new—from Porter-Cable!

greatest all-purpose saw ever made!

—will actually plunge cut right through the side of a house!

Porter-Cable's new Multi-Saw cuts almost *any* "cuttable" material faster! It plunge cuts without a starting hole—has ¾" capacity in aluminum, ¼" in steel.

You get these exclusive features: orbital-action for faster cutting, offset blade to allow "close" cutting within ⅝" of walls and uprights, T-shaped forward handle for complete control of tool even in awkward cutting positions. And with precision ball bearings throughout, it operates almost without vibration.

See the new Multi-Saw at your Porter-Cable dealer—or write for full information now!

PORTER-CABLE MACHINE COMPANY
8124 Marcellus St., Syracuse 4, N. Y.
saws • drills • sanders
routers • shapers • planes

In Canada: write Porter-Cable Ltd., Box 5019, London, Ont., Canadian prices slightly higher.

Porter-Cable
Quality Power Tools

▲ For more details circle NED-449 D8 on enclosed inquiry slip ▲

WANT THESE METAL-JOINING BENEFITS?

Joint Strength · Leak-Tightness · Ductility
Electrical Conductivity · Heat Transfer
Corrosion Resistance · Fast Production

All of these are part of every silver alloy brazing application, and all apply to a wide range of metals at a joint cost that is often reckoned in fractions of a penny.

Manufacturers of hundreds of different kinds of products are daily reaping production benefits with Handy & Harman EASY-FLO and SIL-FOS silver brazing alloys. The best and fastest way to become acquainted with silver alloy brazing and its host of benefits is to send for our Bulletin 20. In it you'll find details on alloys, heating methods, production techniques and joint design. Write for your copy.

Your No. 1 Source of Supply and Authority on Brazing Alloys

HANDY & HARMAN
General Offices: 82 Fulton St., New York 38, N. Y.
DISTRIBUTORS IN PRINCIPAL CITIES

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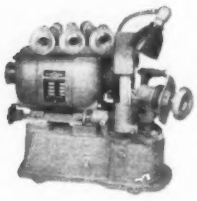
Cut Drill Costs!

Eliminate expensive "outside" sharpening . . . or time-costly "hand-sharpening"! BLACK DIAMOND (up to ¾" Drills) or WORCESTER (up to 2½" Drills) DRILL GRINDERS are always set up to sharpen 1 or 100 drills . . . change sizes in seconds. Your most inexperienced man (or woman) can easily restore like-new sharpness to dull drills in ten seconds, and pay for your unit in months!

Get this Folder



FOR DRILLS UP TO ¾"

World-famous BLACK DIAMOND DRILL GRINDER grinds both lips at once. "Positive Positioning" assures absolute accuracy . . . automatically. Always set up, ready to work. Web-thinning simple, too, with special attachment provided.

FOR DRILLS UP TO 2½"

WORCESTER DRILL GRINDER sharpens 2, 3 or 4 lip drills . . . flat, flat-twisted or chucking. Clearances easily and instantly changeable, feeding is controlled by micrometer adjustment. Precision design assures perfect grinding every time.

BLACK DIAMOND
SAW AND MACH. WORKS
72 North Avenue, Natick, Massachusetts

▲ For more details circle **NED-451 D8** on enclosed inquiry slip ▲

DRIV-LOK STUDS

Save 60% Fastening Time!

- HOLD PERMANENTLY
- DISASSEMBLED EASILY WITHOUT DAMAGE TO COMPONENTS

Quick, simple insertion . . . Drill Hole and Drive Stud with a single blow.

TYPICAL APPLICATIONS

Attaching name plates or instruction panels

Fastening spring assemblies or control arms.

Widely used for fastening brackets.

Securing semi-permanent covers and closure plates.

3 HEAD STYLES

Round (standard) · Flat (to order) · Countersunk (to order)

Driv-Lok Studs save time and reduce costs in fastening name plates, covers, brackets, panels, etc, to heavier sections and for countless other applications involving light-to-heavy member fastening. Once installed, Driv-Lok Studs will not vibrate loose or fall out—yet they can be easily removed without damage to components. Made in 3 head styles. Write for illustrated catalog sheet, prices and samples.

DRIV-LOK PIN COMPANY
717 Chauncey St. • Sycamore, Ill.

▲ For more details circle **NED-452 D8** on enclosed inquiry slip ▲

SILVER PLATING

"ON THE JOB" WITH POWDER

Cool-Amp Silver Plating Powder deposits a genuine coat of silver that will not peel off, and will provide lasting protection against oxidation. It has been used extensively and is accepted as equal to electroplating for bolted and stationary contacts.

Reduces Maintenance
Saves Electricity

Cool-Amp minimizes overheating and provides cool maximum conductivity for your copper, brass or bronze contacts. Used on all current carrying connections, Cool-Amp silver plating assures long life and low maintenance and will prevent series of losses from oxidation that are too small to create noticeable heat but still accumulate into major power loss. Apply to fuse clips and blades to reduce overheating.

Cool-Amp contains no cyanide and is simple to apply. It can be used by any number of people at the same time ON THE JOB in underground vaults, sub-stations and hard-to-get-at places. The only equipment needed is a sharp steel wire brush or abrasive cloth, clean rag and water.

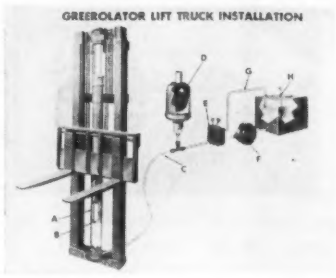
One pound will silver plate approximately 6,000 square inches.

$13.50 PER POUND **SHIPPED PREPAID**
WRITE FOR FREE SAMPLE AND QUANTITY QUOTATIONS

The COOL-AMP Co.
Dept. ED. 8603 S.W. 17th Avenue, Portland 19, Oregon

▲ For more details circle **NED-453 D8** on enclosed inquiry slip ▲

HYDRO-PNEUMATIC ACCUMULATOR absorbs shock on fork-lift trucks

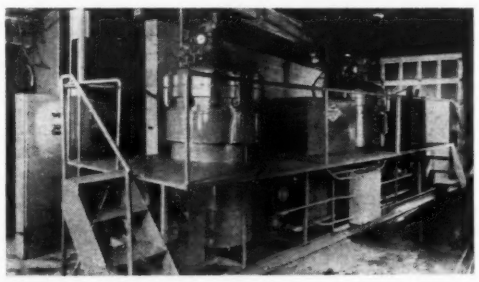


A two-piece welded shell, a one-piece bladder, and only three moving parts comprise the Greerolator, a lightweight disposable hydro-pneumatic accumulator designed to absorb shock and vibration of lift trucks and bucket loaders. Accumulators eliminate damaging shock to cylinders, hose, and other hydraulic parts, allowing heavier and larger loads to be carried by the trucks or loaders. Quart and gallon sizes are designed for 2000-psi working, 4000-psi proof, and 6000-psi burst pressures. Photo shows lift cylinder, A; piston, B; main pressure line, C; Greerolator (enlarged), D; control valve, E; pump, F; return line, G; and reservoir, H. Made by **Greer Hydraulics, Inc.**, PR Dept., N. Y. International Airport, Jamaica 30, N. Y.

▲ For more details circle **NED-454 D8** on enclosed inquiry slip ▲

CASTING IMPREGNATION UNITS twin-autoclave type can be gas, electric, or steam heated

Economical batch impregnation of pressure castings of all kinds can be done by this twin-autoclave model P-200 impregnation machine using either plastic or



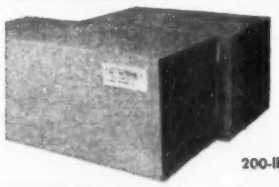
metal oxide type sealing materials. Equipment is automatic and consists basically of large sealant supply tank, a rim-spray rinsing tank and two autoclave sealing tanks. Safety features include a complete electrical interlock system, torque control on tightening autoclave cover clamp bolts, vacuum pump protective devices, and fail-safe shut-down.

Unit can be installed above the floor as shown or in a pit. Standard model measures 26 x 9 x 6 ft. Where metal oxide sealers are used, unit is available with gas, electric, or steam tank heating arrangements. Where plastic sealers are used, equipment is provided with an unheated sealant tank, or an insulated refrigerator-type tank. The 29.9-in. Hg twin vacuum pumps are driven by 1-hp, 220/440-v, 60-cycle, three-phase motor. Made by **Prenco Mfg. Corp.**, 511 E. Ten Mile Rd., Hazel Park, Mich.

▲ For more details circle **NED-455 D8** on enclosed inquiry slip ▲

AN ORDERLY SYSTEM

FOR FILING · STORING · SEGREGATING



TRACINGS
BLUE PRINTS
SHEET MATERIAL

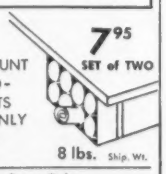
FILE CONSTRUCTED IN 200-lbs-Test CORRUGATED CONTAINER

25 TUBE Model 2½" I.D.			2530	2536	2542
49 TUBE Model 1¾" I. D.	49AB	49CD	4930	4936	4942
DEPTH	11¼"	22¼"	30½"	36½"	42¼"
PRICE	$6.25	$8.35	$10.85	$11.95	$12.85
	SHIPPING WEIGHT				
MOD. 25	——	——	13 lbs.	15 lbs.	17 lbs.
MOD. 49	8 lbs.	12 lbs.	15 lbs.	18 lbs.	20 lbs.

JR 36

DESIGNED TO MOUNT UNDER BOARD-MOUNTING BRACKETS FURNISHED. GRAY ONLY

7.95 SET of TWO



8 lbs. Ship. Wt.

SOLD IN SETS ONLY — 2 JR36 PER SET

ENAMELED DARK GREEN OR MED. GRAY — State Color

F.O.B. FRASER, MICHIGAN • PRESCOTT 3-2515 • **SOLD DIRECT ONLY**

ROLL & FILE SYSTEMS, INC. • P.O. BOX 3863, DETROIT 5, MICH.

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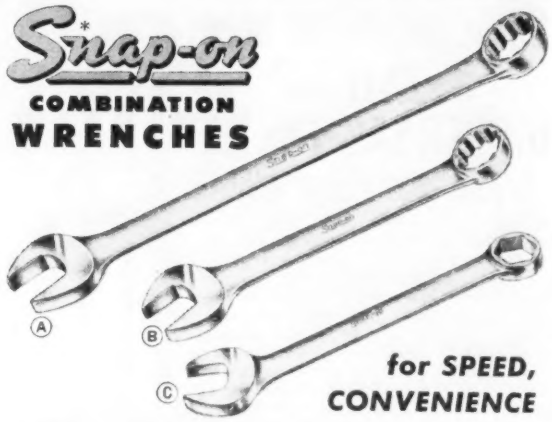
Snap-on COMBINATION WRENCHES



for SPEED, CONVENIENCE

Boxocket® head breaks loose tight nuts or snugs them up solid — same size open-end head turns them fast. Ideal combination for two-head versatility — for perfect fit and long life. Handy sets or single sizes available in four popular styles. See your *Snap-on* man or write for information.

- Ⓐ High-leverage long handle — 18 sizes from 7/16 to 1⅝ in.
- Ⓑ Close-quarter short handle — 8 sizes from 5/16 to ¾ in.
- Ⓒ Angled-clearance offset — 6 sizes from 5/16 to ⅝ in.
- ● Heavy-duty industrial — 5 sizes from 1 11/16 to 2 in.

SNAP-ON TOOLS CORPORATION
8110-D 28th Avenue • Kenosha, Wisconsin

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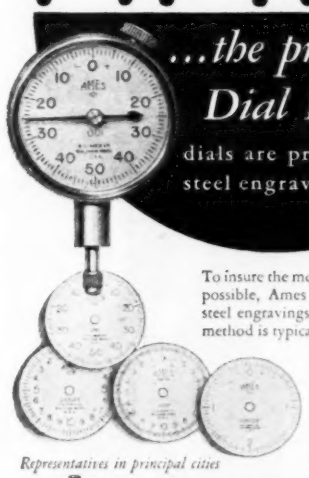
AMEs

...the preferred Dial Indicators

dials are printed from steel engravings only!



To insure the most accurate and legible graduations possible, Ames Dial Indicators are printed with steel engravings exclusively. The use of this costly method is typical of Ames' insistence on maximum precision in every detail. It explains why the lifetime cost of Ames Dial Indicators is lower, and why so many quality control engineers specify Ames as "*preferred*". Write today for complete information.

Representatives in principal cities

B.C. AMES CO.
34 Ames Street, Waltham 54, Mass.

MANUFACTURERS OF MICROMETER DIAL GAUGES • MICROMETER DIAL INDICATORS

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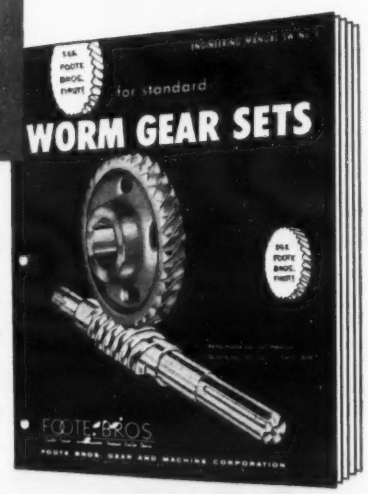
free!

GUIDE TO BETTER WORM GEAR SELECTION



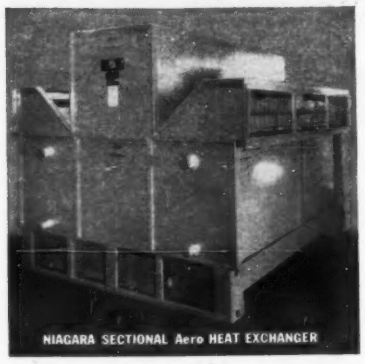
Here's complete information on Foote Bros. famous worm gear sets—plus simple-to-follow selection procedure and helpful design suggestions. Engineering Manual SW No. 1 is your guide to proven worm gear performance. Write for it today!

FOOTE BROS.
Better Power Transmission Through Better Gears

FOOTE BROS. GEAR AND MACHINE CORPORATION
4569 S. Western Blvd., Dept. NE,
Chicago 9, Illinois

▲ For more details circle **NED-459 D8** on enclosed inquiry slip ▲

WATER SAVING
WITH TROUBLE-FREE COOLING EQUIPMENT



NIAGARA Aero HEAT EXCHANGER

•

Convenient Units Up To 30,000,000 BTU Capacity

Cools your jacket water for engines or process equipment or electric apparatus. Your closed system keeps free from dirt or maintenance troubles. You can cool air, gases, chemicals, quench baths, plating baths, welding machines, extrusion and drawing machines. You get real precise temperatures, save rejections, lower production costs. Use NIAGARA AERO HEAT EXCHANGER cooling with atmospheric air . . . saves water, pumping, piping and power; quickly saves its costs. Write for Bulletin No. 132.

NIAGARA BLOWER COMPANY
Dept. ED-4, 405 Lexington Ave., New York 17, N. Y.

▲ For more details circle NED-460 D8 on enclosed inquiry slip ▲

Write for *Wheeler* New Product Data Sheet No. 100 D

Delivers TWICE the amount of lumen output per foot of lamp length!

Two outstanding Wheeler units — Power-Lume F and Power-Lume V — specifically designed to utilize *fully* the extra illuminating power of the new Power Groove Lamp. Both fixtures are designed for all medium to high mounting applications . . . provide more comfortable seeing, cooler lamp operation, thanks to Wheeler's unique diffuser apertures that direct MORE than 20% of the light upwards.

WHEELER REFLECTOR CO.
(Division of Franklin Research Corp.)
275 Congress St., Boston, Mass.
Distributed exclusively through electrical wholesalers.

▲ For more details circle NED-461 D8 on enclosed inquiry slip ▲

LUCAS-MILHAUPT SOLDER PREFORMS

In Sizes And Shapes To Do Your Brazing Job Better

1 **NOTCH COIL RINGS** — No Tangling Problems
2 **EDGEWOUND WASHERS** — No Blanking Scrap Losses
3 **BLANKED WASHERS** — Close Tolerance From Thin Sheet
4 **SPECIAL SHAPES** — Rectangles, Ovals, U-clips, Segments and Many Others

AVAILABLE IN THESE ALCOA ALLOYS
718 Brazing Wire and Sheet
716 Brazing Wire
713 Brazing Sheet

Write For 16 Page Booklet On Better Brazing

LUCAS MILHAUPT Engineering COMPANY
5070 South Lake Drive, Cudahy, Wis.

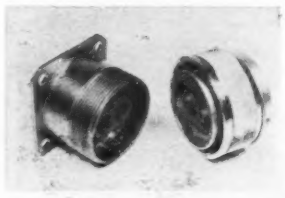
▲ For more details circle NED-462 D8 on enclosed inquiry slip ▲

FLEXIBLE AIR DUCT
for dry, free-flowing materials

Abrasion resistance necessary to handle dry, free-flowing, bulk materials is built into Type 8K-1D flexible air duct. It can also be used for heavy duty exhaust applications. A heavy, neoprene-coated cotton fabric is mechanically locked to an electro-galvanized steel spiral with a permanent grip that cannot fail with age. Available sizes from 3 to 12-in. ID are easily cut, bent to any angle, and installed. Made by **Wiremold Co.**, Dept. AD, Hartford 10, Conn.

▲ For more details circle NED-463 D8 on enclosed inquiry slip ▲

HIGH-VOLTAGE CONNECTOR
will carry up to 7500 v



Miniaturized, gold-plated pins and sockets are used in this high-voltage connector designed to carry 7500 v. Unit has molded-in insert with two high-voltage contacts and three low-voltage carriers. Receptacle is a large 2-in. square-flange type. Plug has a coupling ring retained by a Tru-arc snap ring. Unit is sealed according to standard AN-E methods. Solder pot ends can be potted to make unit environmentproof, if desired. Made by **Deutsch Co.**, 7000 Avalon Blvd., Los Angeles 3, Calif.

▲ For more details circle NED-464 D8 on enclosed inquiry slip ▲

TEMPERATURE RECORDERS
also record electrical operation

Standard temperature ranges of −30 to 50° F and −30 to 120° F are offered in line of Tempscribe temperature recorders, available for either series or 110/220 v ac or dc parallel operation connection. Its one chart shows the exact temperature at all times, as well as the running time and length of "on" and "off" periods of electrical equipment. Instrument has a 6-ft electrical cord for operation recording and a temperature-sensitive bulb at the end of 6 ft of flexible capillary tubing for remote temperature readings. Chart drive is a 24-hr, instrument-type clock movement. One hundred 4¼-in. diameter paper charts and a bottle of ink are furnished. Made by **Bacharach Industrial Instrument Co.**, H & R Dept., 200 N. Braddock Ave., Pittsburgh 8, Pa.

▲ For more details circle NED-465 D8 on enclosed inquiry slip ▲

NO TORQUE ARM REQUIRED

Peerless®
CENTER LINE DRIVE
SPEED REDUCERS

97+% EFFICIENT

GREATER POWER OUTPUT
ROLLER BEARINGS ON INPUT AND IDLER SHAFTS
POSITIVE LUBRICATION WITH OIL SIGHT PLUG
DEPENDABLE LONG LIFE PROVEN BY THOUSANDS IN DAILY USE SINCE 1946
PRECISION MACHINED ALLOY GEARING
LARGE "OILITE" OUTPUT BEARINGS
OUTPUT SPEEDS VARIABLE THRU "V" BELT PULLEYS
SOLVE YOUR COST PROBLEM WITH A PEERLESS "CENTER LINE DRIVE" SPEED REDUCER

STANDARD MODELS ¼ To 10 H.P.

HIGHEST QUALITY — COMPETITIVELY PRICED

WRITE FOR BULLETIN No. 216

PEERLESS GEAR & MACHINE CO., INC.
140-150 E. WAYNE ST.
DUNKIRK, OHIO
PHONE 3101

▲ For more details circle NED-466 D8 on enclosed inquiry slip ▲

New PYROCERAM brand cement for sealing glass, metals, ceramics

Originally developed for sealing the panel-funnel closure on color TV tubes, this turns out to be a very versatile sealing material.

It's a glass powder, which when mixed with a vehicle, turns crystalline under heat. The resulting glass seal is hard and strong at elevated temperatures.

Sealing takes place at about 450° C. Once set, the seal will withstand service temperatures up to 450° C.

You can use it with glass, metals, and ceramics having expansions in the range of 90-110 x 10^{-7} cm/cm° C.

Fact sheets and application data available by writing to:

CORNING GLASS WORKS
56-4 Crystal Street, Corning, New York
Corning means research in Glass

▲ For more details circle NED-467 D8 on enclosed inquiry slip ▲

HILD
TRANSFERABLE HEAD VACUUM CLEANERS

30 MODELS AVAILABLE TO SOLVE ALMOST EVERY MAINTENANCE PROBLEM!

Model 455—One horsepower vacuum cleaner with inside filter bag. For use with 1½" or 2" tools.

Model 555—Powerful 1½ horsepower vacuum cleaner for use with 1½", 2" and 3" hose. Motor detachable for use as blower or "Strap-Bak-Vac".

Model 655—Twin 1½ horsepower motors can be used with up to 100' of 1½", 2" and 3" hose. Motor detachable for use as blower or portable vacuum cleaner.

WRITE FOR FREE 6 PAGE BROCHURE

HILD

Hild Floor Machine Co., Inc. N-48
1217 W. Washington Blvd., Chicago 7, Ill.
Gentlemen: Please send me complete information on Hild Transferable Head Vacuums.
☐ Hild Explosion Proof Vacuum Cleaners.
☐ Hild Floor Scrubbers and Polishers.
Name . . . . . .
Firm . . . . . .
Address . . . . . .
City . . . . . Zone . . . State . . . . . .

▲ For more details circle NED-468 D8 on enclosed inquiry slip ▲

THE Sutton MOTOR DRIVEN PRESSURE BLOWER

THE WORLD'S Most Dependable PRESSURE BLOWER

THREE SIZES ¼, ½, 1 H.P.

USED FOR EXHAUSTING DUST, SMOKE, FUMES, VAPOR . . COOLING AND DRYING . . CONVEYING COTTON, WOOL, SHAVINGS . . FORGE BLASTING

MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY to reduce weight and increase strength. CENTRIFUGAL TYPE. Delivers even, non-pulsating flow of air. Universal as to rotation and discharge. Direction of discharge may be changed to any of eight 45 degree positions. Straight wall construction reduces windage and increases efficiency. Standard 3450 r.p.m. direct-connected 60-cycle ball bearing motor, open or totally enclosed types. Capacities, 100 to 800 cu. ft. per min. at static pressures from ½" to 6".

WRITE FOR LITERATURE AND PRICES

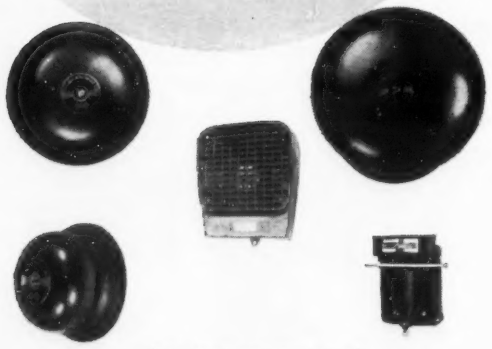
Sutton Manufacturing Corp.
112 W. WILSON AVENUE NORFOLK, VIRGINIA

▲ For more details circle NED-470 D8 on enclosed inquiry slip ▲

bells . . . horns
chimes
cow gongs

Wheelock SIGNALS

complete line of quality audible signals



gives you one source of supply for any signal

Vibrating bells, ranging from 2½ inches to 20 inches, incorporate Wheelock Signals' original Underdome type operation. Such advanced designs and styles are represented in our entire line of audible signals: explosion proof bells, musical and soft tone signals, chimes, cow gongs, tapsounders and buzzers, horns and whistles.

Wheelock Signals' new brochure just issued, shows complete photos, descriptions, diagrams and specifications of these audible signals. For your copy, write on your letterhead . . . ask for Bulletin No. 5C.

Wheelock SIGNALS INC
LONG BRANCH, N. J.

▲ For more details circle NED-471 D8 on enclosed inquiry slip ▲

MINIATURE BALL BEARINGS
made of vacuum-melt stainless steel

Made entirely of vacuum-melt 440-C stainless steel, line of miniature ball bearings is intended for use in sensitive control instruments, missiles, and computer elements. Each bearing size has its own specially designed retainer. Units are made to ARGC-5 tolerances or better. Sizes range from 3/32-in. bore and 5/16-in. OD to a ¼-in. bore and ⅜-in. OD. Open, flanged, two-shield, and flanged two-shield types are offered. Made by **Fafnir Bearing Co.**, Dept. B, 37 Booth St., New Britain, Conn.

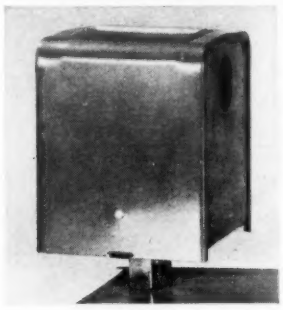
▲ For more details circle NED-472 D8 on enclosed inquiry slip ▲

CAR DOOR OPENER
for use on balky freight car doors

Hook with clevis attachment permits use of the improved Model H one-man door opener on any type of freight car door handle. It also permits the tool to line up for a direct pull of the chain into the case. Suited for opening and closing balky doors, it has a chain locking pawl equipped with a spring for positive operation. A thumb button provides for quick release. Chain breaking strength is 3500 lb. Made by **Nolan Co.**, 128 Pennsylvania St., Bowerston, Ohio.

▲ For more details circle NED-473 D8 on enclosed inquiry slip ▲

PRESSURE SWITCHES
control electrically driven pumps



Heavy duty diaphragm incorporated in Type 8-1 pressure switches adapts them for use with oil or water. Switches are designed for the automatic control of electrically driven, low pressure pumping equipment. Two ½-in. conduit openings lead to a large wiring space. Easily - removed, snap-on cover exposes the entire switch mechanism for inspection of the dual silver contacts or adjustment of range and differential. Cut-in pressures of 5, 10, 20, and 30 psi are offered with 20-40, 25-45, 37-55, and 50-65 psi adjustment limits, respectively. Units for operation on 115 and 230 v will control 1 hp single and polyphase ac motors and ¼-hp dc motors. A 32-v unit is for ¼-hp dc motors only. Made by **Mairco, Inc.**, Div. A, 1026 N. Main St., Goshen, Ind.

▲ For more details circle NED-474 D8 on enclosed inquiry slip ▲

FULL CONE—HOLLOW CONE—FLAT SPRAY

Spraco has the most complete line of nozzles available anywhere — **IN STOCK.** Capacities range from ⅛ pint/min. to 4000 gal./min. Bronze, cast iron, and stainless steel. Write for our nozzle catalog.

SPRAY ENGINEERING CO., *106 Cambridge St., Burlington, Mass.*

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SAFER HANDLING
of INDUSTRIAL LIQUIDS!

Eliminate in-plant accidents caused by slick floors and spilled inflammables! This TOKHEIM Hand Pump, for use on drums or skid-tanks, has 8' hose—or spout outlet—prevents dangerous, wasteful slopping of oils and many other liquids. Speeds production. Pumps 20 gallons per 100 strokes. Ask your dealer, your Tokheim representative or write for list of liquids.

TOKHEIM High-Vacuum HAND PUMPS

General Products Division
TOKHEIM CORPORATION
DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT SINCE 1901
1656 Wabash Avenue Fort Wayne 1, Ind.

Subsidiaries: Tokheim N.V., Leiden, Holland—GenPro, Inc., Shelbyville, Ind.
Factory Branch: 475 Ninth Street, San Francisco 3, California
In Canada: Tokheim-Reeder of Canada, Ltd., 205 Yonge St., Toronto, Ont.

▲ For more details circle NED-476 D8 on enclosed inquiry slip ▲

HIGH POWER from a Little Variac®

The Type W5L VARIAC auto-transformer is designed for many applications in which output voltages not in excess of line are all that are needed. Through modifications of the popular Type W5 units, the power rating of the Type W5L is increased to 1265 va. As with all VARIACS the output voltage is continuously adjustable from zero. Other VARIAC features included are Duratrak brush construction for extra-long life . . . excellent regulation . . . low losses . . . linear output. The Type W5L VARIAC is moderately priced at $17.50.

Write for the Variac Bulletin for Complete Data

GENERAL RADIO Company
275 Massachusetts Avenue, Cambridge 39, Massachusetts, U. S. A.

Broad Avenue at Linden, Ridgefield, N. J. NEW YORK AREA 1000 N. Seward St. LOS ANGELES 38
8055 13th St. Silver Spring, Md. WASHINGTON, D. C. 1150 York Road, Abington, Pa. PHILADELPHIA
1182 Los Altos Ave., Los Altos Calif. SAN FRANCISCO 6605 W. North Ave., Oak Park, Ill. CHICAGO
In CANADA: 99 Floral Parkway TORONTO 15

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Modern AIR CONVEYING for BULK MATERIALS HANDLING

SPROUT-WALDRON
PNEU-VAC

Modernize for greater savings with a Sprout-Waldron PNEU-VAC Pneumatic Materials Handling System. It draws granular, pulverized, and flaky materials by air anywhere you can run a pipe. The unit can be made to cool, to heat, to aerate, to dry.

Pneu-Vac is self-cleaning, does not produce dust, prevents infestation and product intercontamination, saves space, increases production, provides greater safety and better working conditions.

Sprout-Waldron also offers complete lines of the most advanced screw, belt, and drag conveyors . . . bucket elevators . . . and rotary vane feeders. Write for details.

Write for Bulletin 18-D.

IN/495

SPROUT-WALDRON
Manufacturing Engineers Since 1866
LOGAN STREET • MUNCY, PA.
EQUIPMENT FOR SIZE REDUCTION • MIXING & BLENDING • BULK MATERIALS HANDLING • PELLETING & CUBING • PRODUCT CLASSIFICATION

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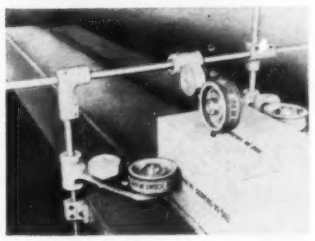
▲ For more details circle NED-479 D8 on enclosed inquiry slip ▲

CONVEYOR LINE MARKER
roller revolves on needle bearings



With the printing roller revolving on needle bearings and the transfer roller and ink container revolving in bronze bushings, the Versa-Matic conveyor line carton marker is capable of high marking speeds. Basic arm assembly can accommodate 1, 2½, or 4-in. components, interchangeable by replacing the original part with larger capacity parts. Marker can operate from right to left, or left to right. Made by **Krengel Mfg. Co.**, 229 Fulton St., New York 7, N. Y.

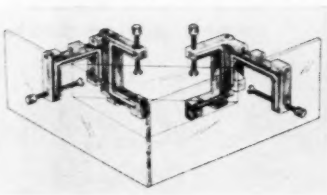
▲ For more details circle NED-481 D8 on enclosed inquiry slip ▲

METAL-CUTTING BAND SAW
mobile gasoline engine powered unit

Self-powered Model MG61OD Kalamobile metal - cutting bandsaw is a portable unit for use where power is not readily available. A Continental Red Seal 2-hp gasoline engine powers the unit, suited for all types of intermittent cut-off work on pipe, cable, channel, conduit, and angles. "Wheelbarrow type" chassis rolls on 12-in. solid rubber-tired wheels. Collapsible handles telescope into the handle tubes. Made by **Kalamazoo Tank & Silo Co.**, Machine Tool Div., 125 Harrison St., Kalamazoo, Mich.

▲ For more details circle NED-482 D8 on enclosed inquiry slip ▲

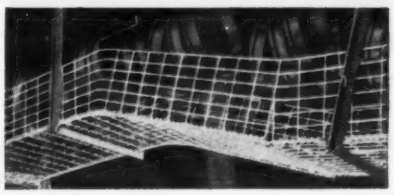
INTERLOCKING CLAMPS
will grip many odd-shaped pieces



Versatile Third Hand interlocking clamps will easily grip a miter or box joint, as well as a variety of odd-shaped pieces. Having the appearance of a squared-off C-clamp, these clamps are so shaped that they can be joined together back to back; top to bottom; in parallel; in vertical and horizontal positions; and at angles of 45, 90, and 180 degrees. They will hold any piece of metal or wood in any position for welding, fastening, and machining. The forged steel clamps have jaw openings from 2 to 6 in. Each set comes with simple locking wrench for fast assembly. Made by **Aircompco Co.**, Dept. 50, Edison, N. J.

▲ For more details circle NED-483 D8 on enclosed inquiry slip ▲

light... strong.. easily installed



TRI-STATE
CONVEYOR GUARD

Made by the makers of CARGOTAINERS® and utilizing the same heavy gauge steel wire construction, Tri-State Conveyor Guard provides protection for workers underneath overhead conveyor lines.

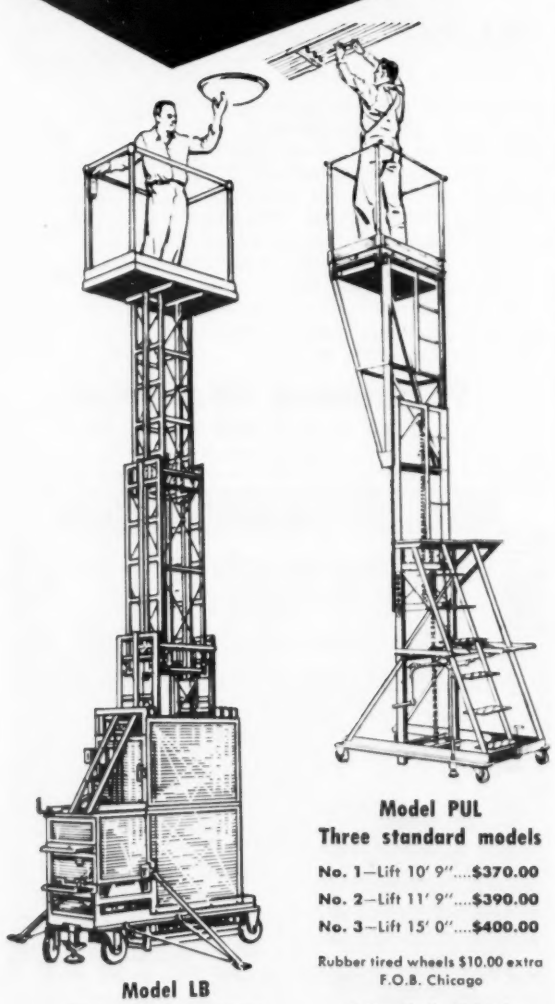
Easily installed by your own maintenance men . . . requires no special tools. Easy also to take down and re-use if plant layout is changed.

For full information, write for Bulletin G1.

CARGOTAINER DIVISION
TRI-STATE ENGINEERING COMPANY
315 W. Beau Street
Washington, Pennsylvania

▲ For more details circle NED-485 D8 on enclosed inquiry slip ▲

90% of overhead servicing jobs can be done faster and with perfect safety with these ECONOMY Hi-Reach Telescopers!



Model LB
Hi-Reach Telescopers
Four heights 20 ft. to 35 ft.
Standard Models from $1510.00 up.

Model PUL
Three standard models
No. 1—Lift 10' 9"....$370.00
No. 2—Lift 11' 9"....$390.00
No. 3—Lift 15' 0"....$400.00
Rubber tired wheels $10.00 extra
F.O.B. Chicago

Custom built Hi-Reach Telescopers up to 100 ft.
Write for complete catalogue

Headquarters for standard and special built overhead service lifters and material handling equipment since 1901

ECONOMY ENGINEERING
4519 West Lake St., Chicago 24, Illinois

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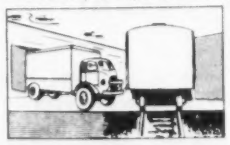
does your loading dock LEAK MONEY?

IT DOES IF IT'S NOT PROTECTED BY A DAZZO LOADING DOCK-DOOR SHELTER!

HERE'S WHY—A Dazzo retractable loading dock-door shelter provides a safe, dry, draft-free passageway between the door of your building and the door of the freight car or truck.
This saves you important money these four ways:



1. It prevents spoilage and damage.
2. It cuts heating cost and improves working conditions by sealing off drafts.
3. It lowers compensation insurance rates by preventing slipping and accidents.
4. It saves man hours by speeding loading regardless of weather and by cutting absenteeism.

CONSIDER THESE FACTS! Dazzo shelter anchors permanently on the building wall around the door. It retracts or extends in 10 seconds. No tugging, no springs; it works by gravity. Eight different models custom tailored to fit every need.

PLANT EXPANSION? Before you build or modernize your shipping facilities, send for a free copy of "Loading Dock Shelters". Contains valuable "do's and don'ts" that can make your new Loading Dock a money-saver.

DAZZO PRODUCTS
INCORPORATED
Dept. D, 152 Bleecker St., N. Y. 12, N. Y. • OR 3-5298

DAZZO PRODUCTS, INC. D4-58
152 Bleecker St., N. Y. 12, N. Y.
FREE CATALOG!
Please send me "Loading Dock Shelters".
Name .....
Company .....
Address .....
City, State .....

▲ For more details circle NED-484 D8 on enclosed inquiry slip ▲

pipe coils are old fashioned...

Install PLATECOIL heat transfer units and save up to 50% on installation and maintenance costs. With "spare" PLATECOIL units, you can eliminate down time needed for cleaning pipe coils. Simple connections and "quick-change" hangers make changing PLATECOIL units fast and easy. Use "spare" while other units are being cleaned. Cleaning is easier, too, with PLATECOIL. Wide selection of sizes, styles and metals to fit your needs.

SEND FOR FREE BULLETIN P57.

TRANTER MANUFACTURING INC.
LANSING MICHIGAN
PLATECOIL® DIVISION

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This Washroom SAVES Money!

Statistics Prove It Pays To Install
WORLD HAND DRYERS

Thoughtful Buyers Use WORLD
Marshall Field & Co.
Northwestern University
Chrysler Corp.
Union Pacific Railroad
Libby-Owens-Ford
Gimbel Brothers
Howard Johnson's
Pick Hotels
Gulf Oil

Yes, with WORLD . . . the dryer that *really* dries hands . . . you save up to $600 yearly on towels and maintenance. Prove to yourself that WORLD . . . the modern, sanitary way to dry hands . . . costs less! Mail coupon, no obligation!

FREE Trial Offer

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Gentlemen: Without obligation send me copies of letters from users, also folder of facts including cost-saving figures and full details on your FREE-TRIAL offer.
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Street .....
City ..... State .....

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CUT HANDLING COSTS • • • STOCK MORE IN LESS SPACE

Low-Cost Flexible Stackbin System Saves Space, Time and Labor

Stackbin®-Stackrack® Combinations are the ideal way to minimize parts, tools, materials handling. Stackbins are portable containers, so you can carry materials throughout your process without transferring contents to any other container. Stored in Stackracks, every Stackbin is instantly accessible when it's needed. You never disturb another bin. Hopper fronts on Stackbins provide visibility and accessibility to the materials. Available in 7 sizes, Stackbin-Stackrack Combinations make most efficient use of floor space. With inexpensive Adapters any small units can be stacked on larger units. Related items can be kept in one place. Individual units lock together: no tools, no setup time needed.

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All Stackbin Products Sold Direct

STACKBIN CORPORATION

1081 Main St., Pawtucket, R. I.

Mfgd. and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa

STACKBIN® SYSTEM "Stacked and Still Accessible"

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BEKO • BEKO • BEKO • BEKO • BEKO • BEKO • BEKO

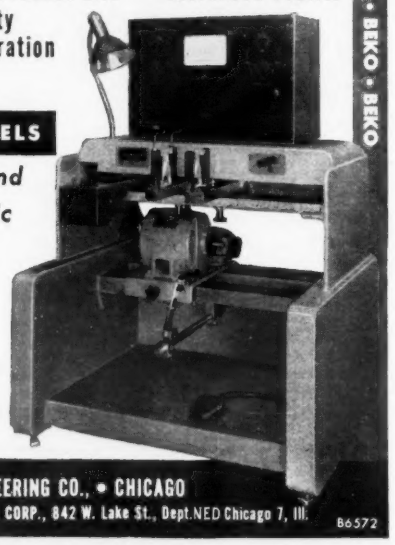
BEKO BALANCERS

serve you best with . . . BEKO

- More Efficiency
- Higher Production
- Ease of Use by Unskilled Operators
- Greater Product Life
- Increased Profits
- Simplicity of Operation

14 MODELS

Static and Dynamic



Write for FREE Catalog!

BALANCE ENGINEERING CO., • CHICAGO

Sales Division: MACDELL CORP., 842 W. Lake St., Dept. NED Chicago 7, Ill. B6572

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Don't miss "The Farval Story"

GET YOUR FREE COPY TODAY!

Modern Farval Centralized Lubricating Systems can drastically cut your production costs in the following ways:

SAVES TIME
—quickly lubricates all bearings while equipment remains in full operation.

SAVES MANPOWER
—a single Farval System can easily out-lubricate ten men with grease guns.

SAVES POWER
—when friction is reduced through proper lubrication, power consumption often drops as much as 20%.

SAVES BEARINGS
—when your equipment is Farvalized, bearing life can increase up to 25 times.

SAVES LUBRICANT
—as much as 75% of that formerly required with normal lubricating guns.

This new Bulletin 26-S contains 20 colorful pages that graphically show the complete Farval line and how these versatile lubricating systems can fit into your production picture.

The Farval Corporation

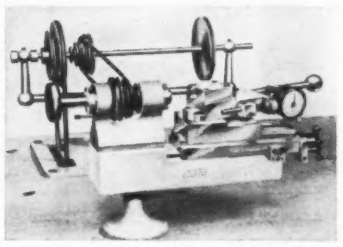
3283 East 80th Street

Cleveland 4, Ohio

FARVAL CENTRALIZED SYSTEMS OF LUBRICATION

▲ For more details circle NED-490 D8 on enclosed inquiry slip ▲

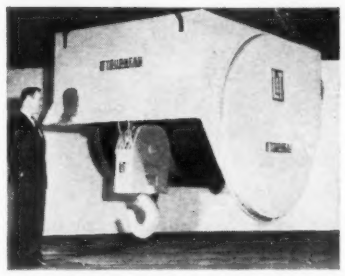
RADIUS TURNING MACHINE turns small part radii up to 1 in.



Originally designed to turn plastic contact lenses, this precision radius turning machine is equally adaptable to turning small metal instrument parts. It can turn up to 1-in. concave or convex radii and has a longitudinal slide to feed tool into work without altering radius setup. Tool can be vertically and horizontally centered. Standard Levin lathe head stock has either 3/16 or 5/16-in. collet capacity. A 1-in. longer spindle can be furnished to provide extra clearance for radius turning slide. Made by **Louis Levin & Son, Inc.**, Dept. ND, 3610 S. Broadway, Los Angeles 7, Calif.

▲ For more details circle NED-491 D8 on enclosed inquiry slip ▲

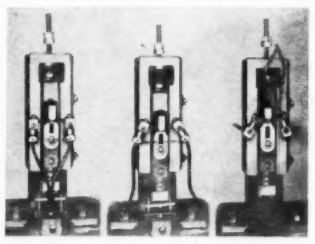
45-TON CAPACITY HOIST has lift height of 103 ft



Full capacity load of 45 tons can be raised and lowered accurately in increments as small as 0.008 in. by this large hoist. It has a 4-ft diameter, 6½-ft long drum that holds 922 ft of double - reeved cable. Lift height is 103 ft. Combination of an instant-action electric motor and a twin-brake control makes the close control possible. Hoist frame is 8¼ ft wide by 9½ ft long. The entire unit weighs 16,650 lb. Made by **R. G. LeTourneau, Inc.**, Dept. 41-35, 2399 S. MacArthur, Longview, Tex.

▲ For more details circle NED-492 D8 on enclosed inquiry slip ▲

PRESS SAFETY DEVICE sweep action protects hands



Norwood safety press guard has a sweep action to push operator's hands out of the way with every stroke of the press. It is easily installed with only two bolts on most small presses. The guard does not have to be removed for job set-ups, since its protector arms snap into an upright, out-of-the-way position. The adjustable arms can be bent to sweep over the entire tool when necessary. Price is $10. Made by **Norwood Findings Co.**, 46 Manson Ave., Providence 7, R. I.

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Here is the KEY to higher

VOLUME PROFITS through BETTER ACTUATION!

•

7 LOW-COST STANDARD SIZES

36-page book is crammed with helpful facts on b/b Screw Basic Operation • Applications • Advantages • Features • Characteristics • Technical Data • Standard Assemblies • Couplings • Design Data • Engineering Assistance • Service. Make your volume products easier to produce, operate and sell with Saginaw b/b Rolled Thread Screws—they cost no more and are far more efficient than acme screws • WRITE TODAY!

FREE!

NEW 1958 ENGINEERING DATA BOOK and STANDARD ASSEMBLIES PRICE LIST

from world's largest producer of b/b screws and splines

ROLLED THREAD Saginaw b/b Screws

SAGINAW STEERING GEAR DIV., GENERAL MOTORS CORP., SAGINAW, MICH.

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FOR YOUR "SPECIAL" MADE TO ORDER **CUTTING TOOL REQUIREMENTS**

▼ We solicit your SPECIAL REAMER and shank type cutting tools. Quotations promptly given to your blueprint, sketch or other types of specification. Write for catalog today.

WORLD'S GREATEST SELECTION OF REAMER SIZES in DECIMALS of .001.

TWENTIETH CENTURY MANUFACTURING CO.

ROUTE 176 and BRADLEY ROAD BOX 429NED, LIBERTYVILLE, ILL.

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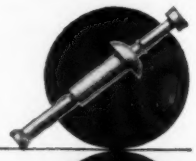
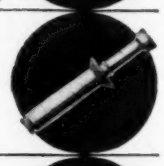
YOU GET BETTER FASTENING



FOR LESS WITH



TOWNSEND BLIND RIVETS

Townsend's Cherry and Versa blind rivets provide more economical joints with superior strength. The knob stems of the rivets make the most positive, foolproof engagement, assuring consistent high-quality, high-speed production even from workers having no special skill or training in riveting. Setting guns have long strokes to set the rivets with one squeeze of the trigger, and their simplified designs keep maintenance costs low.

For complete information on how Townsend blind rivets can lower your fastening costs, write for Bulletin TL-124.

Townsend Company

P. O. Box 237-G • New Brighton, Pa.

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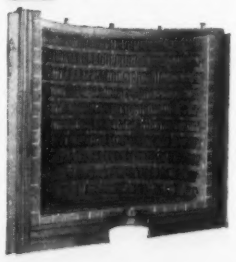
POSITIVE TEMPERATURE CONTROL — No Over-Heat!

TRENT "HIGH-TEMPERATURE" JACKETS with TRENT "Folded-and-Formed" Heating Units

Only TRENT "Folded-and-Formed" ribbon type resistor heating element provides controlled, uniform radiant heat up to 2000°F. . . . the greatest radiating surface per square inch of element cross section of any electrical heating element! And only TRENT Heating Jackets offer these design advantages to assure efficient processing operations wherever high-temperature radiant heat with positive control is essential.



- Temperatures to 2000°F. without Pressure Equipment
- Maximum Heat Input
- "Double-Boiler" type Unit and Chamber Control
- Heat Zone Control—either Manual or Automatic
- Brick Insulation or Appropriate Low Temperature Insulation Depending on Operating Requirements
- All-Welded Internal Connections
- Rapid Heat Decline after Unit is De-energized
- Maximum Element and Jacket Life —Minimum Maintenance

Let an experienced Trent Heating Engineer show you how Trent "High-Temperature" Jackets with Trent "Folded-and-Formed" Heating Units can mean trouble-free controlled heat for the kettles, tanks, autoclaves and similar process vessels you use or design. Or write for Bulletin 72-E.

Trent Representatives in Principal Cities Coast to Coast

TRENT INC.

Electrically Heated Industrial Equipment

251 LEVERINGTON AVE., PHILA. 27, PA.

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HERE IS INFORMATION YOU NEED ON FLOOR TRUCKS AND HOW TO SELECT THEM

Send for this Catalog!

There's more to correct floor truck selection than meets the eye. To help simplify the problem of equipment selection and specification, send for this information-packed catalog by Hamilton. Clearly illustrates and describes hundreds of trucks for every purpose: platform trucks, two-wheel hand trucks, wagon trucks, box trucks, shelf and tray trucks, dollies, lumber buggies, lift truck systems—and special trucks for many uses.

If you are in need of trucks, tell us how many you can use—we'll send full information promptly along with this informative catalog and the name of your nearest Hamilton representative.

THE HAMILTON CASTER & MFG. CO.
1764 Dixie Highway • Hamilton, Ohio

▲ For more details circle NED-498 D8 on enclosed inquiry slip ▲

RIVETT
SQUAREMASTER
"100" CYLINDERS

Unfailing POWER for MILLIONS of cycles!

SQUAREMASTER 100's are the world's finest cylinders—perform with 100% efficiency! 200 P.S.I. air to 500 P.S.I. oil. 7 standard mountings, 10 bores, internal and external threading.

RIVETT, INCORPORATED
Dept. NED-4, Brighton 35, Boston, Mass.

*Initial High Coefficient of Static Friction

1. Piston rod. Hard chrome-plated. **2.** Piston rod bearing. Replaceable. **3.** Piston packing adjusts automatically. **4.** Correctly stressed tie rods. **5.** Cushion bushings. Bronze, floating. **6.** Ports rotated 90°.

SEND FOR CATALOG. Shows proof of SQUAREMASTER efficiency.

RIVETT FURNISHES A COMPLETE POWER PACKAGE

▲ For more details circle NED-499 D8 on enclosed inquiry slip ▲

Compactness . . . it's the big difference in

Compactly designed Link-Belt geared flexible couplings weigh less . . . cost less . . . have greater bore capacity than other comparable flexible couplings. Also, they're exceptionally rugged . . . capably handle shock, pulsation, reversing loads. For facts, contact your Link-Belt sales office or authorized stock-carrying distributor. Or write for Folder 2775.

LINK-BELT
GEARED FLEXIBLE COUPLINGS

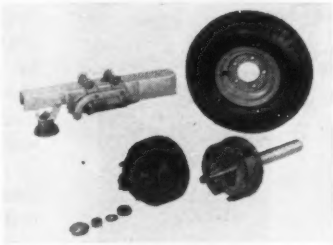
POPULAR-SIZED, finished-bore geared flexible couplings are available packaged, ready for installation.

LINK-BELT COMPANY: Dept. N. E. D., Prudential Plaza, Chicago 1, Ill.

14,588

▲ For more details circle NED-500 D8 on enclosed inquiry slip ▲

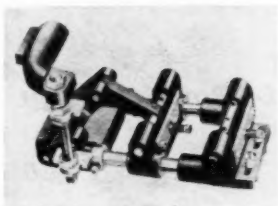
INDUSTRIAL BRAKES
have 31 sq in. of brake lining



Line of brakes and brake mechanisms, adaptable to industrial mobile equipment applications, has 7-in. drums, 31 sq in. of brake lining, and capacity of about three-fourths that of conventional automobiles. Brakes can be actuated by automotive hydraulic system, or by cables or rods. They are designed for 8, 9 and 12 in. rims. Also offered is a surge mechanism for independent braking of towed vehicles. Forward inertia of moving trailer against towing vehicle automatically applies brakes. Made by **Dico Co.**, Dept. NED, 200 S. W. 16th St., Des Moines 5, Iowa.

▲ For more details circle NED-501 D8 on enclosed inquiry slip ▲

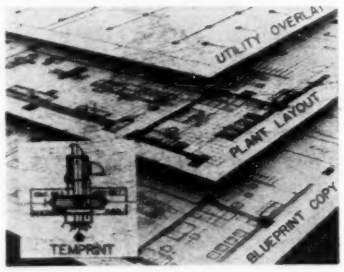
AUTOMATIC PRESS FEEDER
controlled by movement of press



Only two drive plates and simple linkage, controlled by the movement of the press, are required by the Surefeed automatic press feeding device to advance the stock. Direct feeding action assures accuracy. No press or feed alterations are necessary to mount the device in an ordinary press on the die set. Models are offered for 2 and 3-in. maximum stock widths. Made by **Producto Machine Co.**, 965 Housatonic Ave., Bridgeport 1, Conn.

▲ For more details circle NED-502 D8 on enclosed inquiry slip ▲

PLANT LAYOUT AIDS
Mylar content prevents tearing



Use of Dupont Mylar material in these Temprint and grid sheet plant layout aids renders them nontearable, or otherwise indestructible. Both aids have a matte surface for pencil or pen notes. Temprints now afford such necessary information as overall dimensions, identification, travel, centerlines, door openings, and operator position. Shop copies of layouts are made simply by running blueline reproductions on any ordinary blueprint machine. Made by **F. Ward Harman Associates**, Halesite, Long Island, N. Y.

▲ For more details circle NED-503 D8 on enclosed inquiry slip ▲

LIFT MORE FOR LESS

...with
RUGER
MULTI-PURPOSE CRANES
CAPACITIES ¼ to 3 TONS

PRICED AS LOW AS $149.00
TM ¼

Ruger mobile hydraulic cranes reach in-under-over for versatile lifting power where and when you need it. They enable one man to lift and move anything that will hang on a hook. Manual and electric models: floor . . . truck . . . convertible floor and truck . . . short mast . . . high mast . . . wide base . . . adjustable legs and retractable outrigger for side lifting. To lift more for less, get the facts today.

THE CRANE WITH 1000 USES
RUGER

N-610-RE

RUGER EQUIPMENT, INC.
619 WEST FOURTH ST. • UHRICHSVILLE, OHIO

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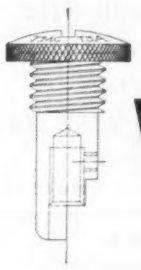


WHY?

Why can Teale successfully bid on and produce parts such as this one? One of the reasons is that the new

AUTOMATION MACHINING

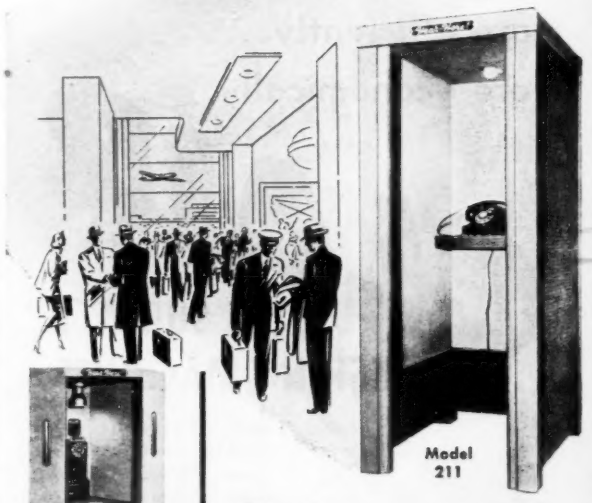
process used in its manufacture enables Teale to perform in one single handling the 12 operations involved: Tapping, Broaching, Cross Drilling, Cross Tapping, Knurling, Slotting, Milling. Roll Threading, Trepanning, Drilling, Shaving, and Marking.

Ask for Teale Folder which outlines the possibilities of this new process.

TEALE MACHINE CO. INC.
1423 UNIVERSITY AVE.
ROCHESTER 7, N. Y.

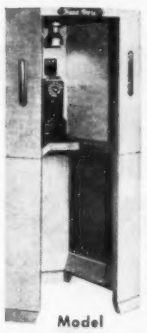
▲ For more details circle NED-505 D8 on enclosed inquiry slip ▲

For those "Hard-to-Hear" Places—

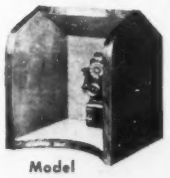


Model 211

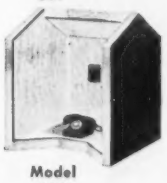
Model 45



Model 45SL



Model 601



Model 602

Specify a
BURGESS-MANNING ACOUSTI-BOOTH
(The Original Isolation Booth)

- **A Model for every purpose**
- **Every Model an acoustic masterpiece**

The stuffy, foul smelling, hard-to-clean, closed booth is no longer required for comfortable telephoning or privacy when the modern, compact, Burgess-Manning Acousti-Booth is available. Perfect for Institutions, Hospitals, Schools, Air & Rail Terminals, Hotels, Stores, Lobbies, Clubs, Factories, etc.

It is more than an ordinary booth, —it's a scientifically constructed acoustical chamber, with no door to stick, no glass to break, designed to isolate the user from extraneous noise.

Other models, half or full length, all doorless, are available to suit the particular location.

Write for Bulletin A-142-2-D

3 Heating Cooling Acoustical

BURGESS-MANNING COMPANY
Architectural Products Division
5970 Northwest Highway, Chicago 31, Ill.

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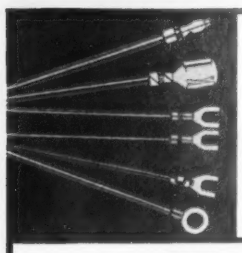


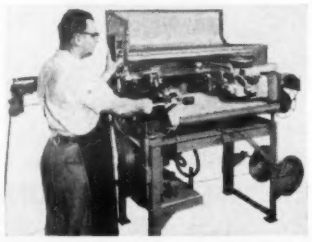
DO YOU NEED
AUTOMATION
for
FINISHED WIRE LEADS
with
Terminals Attached?

NEW ARTOS TA-20-S
Performs 4 Operations Automatically!

1. Measures and cuts solid or stranded wire 2" to 250" in length.
2. Strips one or both ends of wire from 1/8" to 1".
3. Attaches any prefabricated terminal in strip form to one end of wire. (Model CS-9-AT attaches terminals to BOTH ENDS OF WIRE simultaneously.)
4. Marks finished wire leads with code numbers and letters (optional attachment).

UP TO 3,000 finished pieces per hour. Can be operated by unskilled labor. Easily set up and adjusted to different lengths of wire and stripping. ENGINEERING consultation without obligation. Machines for all types of wire lead finishing.

AGENTS THROUGHOUT THE WORLD



WRITE for FREE Bulletin No. 655 on Artos TA-20-S

ARTOS ENGINEERING CO.
2751 South 28th Street • Milwaukee 46, Wisconsin

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YOU too, can obtain QUALITY FINISHES
more efficiently...
more economically...
with
CLAIR
SURFACE FINISHING MACHINES

Ten different basic CLAIR models to choose from. Write for information on *any* surface finishing problem you may have.

CLAIR MANUFACTURING CO., Inc., OLEAN, N.Y.

Offering the Most VERSATILE Line of Surface Finishing Machines

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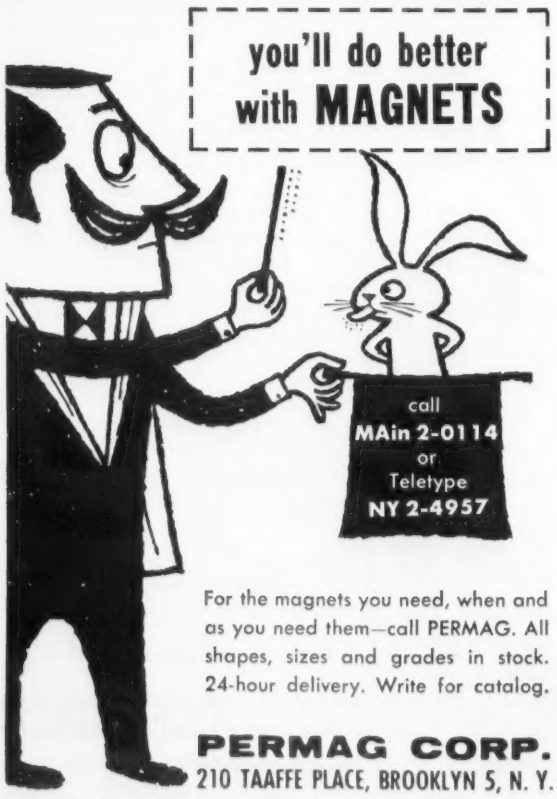
you'll do better with MAGNETS



For the magnets you need, when and as you need them—call PERMAG. All shapes, sizes and grades in stock. 24-hour delivery. Write for catalog.

PERMAG CORP.
210 TAAFFE PLACE, BROOKLYN 5, N. Y.

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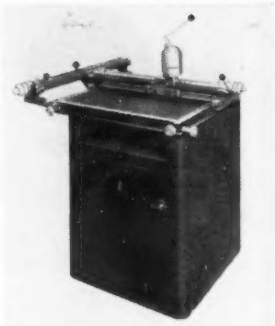
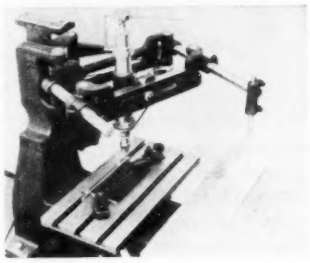
DRILLING MACHINE
drills sheet metal templates



Precision ground lead screw and dial which can be read to 0.001 in. enable the Strippit drilling machine to drill sheet metal templates accurately. The dimension setting is locked during drilling. Wear on the lead screw is minimized as it is used only for setting dimensions. A base line is established anywhere on the 24 x 24-in. table by adjusting the zero position of a built-in flexible steel tape. An integral bend allowance calculator permits drilling in the flat with proper compensation for material stretch around bends. Material up to 0.1-in. thick can be handled. Machine is applicable wherever height gage layout of sheet metal is required, and for producing Strippit positive duplicator templates. Made by **Wales-Strippit Co.**, 227 S. Buell Rd., Akron, N. Y.

▲ For more details circle NED-510 D8 on enclosed inquiry slip ▲

DRILL ATTACHMENT
for the Model UE-3 Panto Engraver



Quick-action drill attachment for Model UE-3 Panto Engraver enables operator to drill any number of holes from a master template. Vertical spindle travel is 1 in. and depth of feed is controlled by micrometer stop graduated in 0.001-in. increments. Chucks are available to hold 0.008 to 0.062-in. or 0.025 to 0.125-in. diameter drills. With a choice of four cutter spindle speeds ranging from 7000 to 18,000 rpm and with pantograph reduction ratios from 1.6:1 to 7:1, engraver with the attachment can be used to template-drill printed circuit units as well as for engraving and profiling in carbon, plastic and metal plates. Engraver has 1/6-hp, 3450-rpm motor and 6 x 12-in. worktable. Made by **H. P. Preis Engraving Machine Co.**, 252 Industrial Branch, Hillside, N. J.

▲ For more details circle NED-511 D8 on enclosed inquiry slip ▲

Variable Speed, Fluid Power Drives

Oilgear Co.—32-page illustrated Technical Manual 10600 is descriptive of Any-Speed fluid power drives. Performance curves, block circuit diagrams, hydraulic power data, and typical applications are included in this comprehensive reference booklet. Drives can provide constant power, constant torque, synchronized control, or servo type control.

▲ For more details circle NED-512 D8 on enclosed inquiry slip ▲

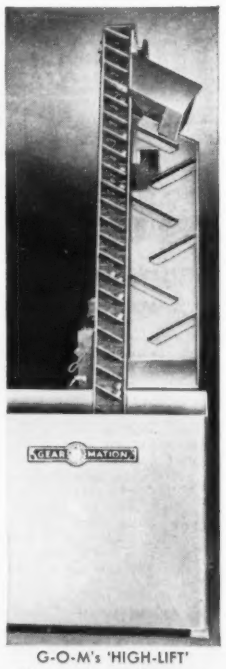
Your Best Bet to Improve Profits . . .

...AUTOMATIC PARTS HANDLING

Gear-O-Mation offers a full line of versatile equipment to give you top control of all kinds of parts into, through or from any process stage. These profit-improving (more than cost-cutting) units are pre-engineered for easy adaptation to your production. For demand control, selective feeding, mobile storage or positive movement of parts, automation by Gear-O-Mation is more than likely the eventual answer. Why not try G-O-M first?

Send for descriptive literature on any of the following equipment:

Washers	Storage Units
Elevators	Skew Loaders
Conveyors	Basket Loaders
Loaders	Distribution Systems
Unloaders	Assembly Devices
Orientors	Size Classifiers
Hoppers	Demand Feeders

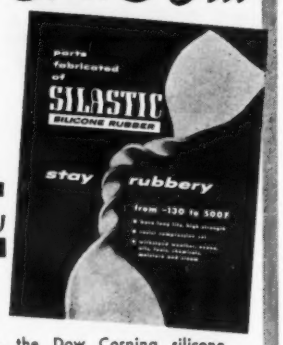


G-O-M's 'HIGH-LIFT' Hopper-Feeder-Elevator

Automation by...GEAR-O-MATION
DIVISION OF MICHIGAN TOOL COMPANY
7171 E. McNICHOLS RD. • DETROIT 12, MICH.

▲ For more details circle NED-513 D8 on enclosed inquiry slip ▲

New Booklet...
gives you the facts on SILASTIC SILICONE RUBBER



Parts fabricated of Silastic*, the Dow Corning silicone rubber, stay flexible under conditions that destroy organic rubber. This new booklet spells out the properties of Silastic . . . properties such as—

- Resilience from —130 to +500 F
- Resistance to weather and ozone
- Resistance to oils, fuels, chemicals
- Resistance to moisture and steam
- Low compression set
- High strength, long life

SEND FOR YOUR COPY TODAY! . . . DEPT. 544

first in silicones

Dow Corning CORPORATION
MIDLAND, MICHIGAN

*T. M. REG. U. S. PAT. OFF.

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On every job...in every shop... this new tool will save time, speed work, reduce costs!

SUPREME
VERSAMATIC®

Reversible speed reducer for power drills!

In woodworking, machining, maintenance—wherever men work with tools—the Supreme Versamatic is a time saving, blister-ending workhorse. Reduces speed of any electric drill 7 to 1; increases power a like amount. Reverses in one simple twist. Drives or removes screws, nuts, bolts; increases efficiency of heavy duty cutting tools. Model No. 4000P includes a large variety of bits and adapters . . . all with yankee-style shanks.

WHAT THE USERS SAY:

- "... every carpenter should be *required* to own one."
- "We drive screws seven times faster."
- "... makes masonry bits last longer."
- "... a 'must' for a boat builder."

VERSAMATIC MOVIE AVAILABLE . . .
Your distributor can arrange to show our 6-minute, 16mm color movie demonstrating many of the things the Versamatic will do. Plan a showing soon. This movie also demonstrates our other great drill attachment, the Supreme Push-Pull Tapper.

INDUSTRIAL DISTRIBUTORS — THE RIGHT HAND OF PRODUCTION

SUPREME PRODUCTS CORPORATION
2222 S. Calumet, Chicago, 16
A DIVISION OF A•S•R PRODUCTS CORPORATION
By the makers of Supreme Brand Chucks

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A modern truck for modern plants

The **HydroLectric**

with most modern features

- 2 Drive Wheels instead of one
- 2 Braking Systems available instead of one
- 4 Wheel Stability instead of three
- Alloy Gear Transmission instead of chains
- 100% more Steering Ease —Greater Maneuverability
- 50% less Maintenance —Easy Accessibility
- Finger-Tip Control —Greater Safety

Put these modern features to work for you, greater profit at no additional cost.

Write for Bulletin KP

STUEBING Designed • Engineered • Built

LIFT TRUCKS, INC.

2423 Spring Grove Ave., Cincinnati 14, Ohio

THERE IS A TRUCK FOR EVERY PURPOSE TO HANDLE ANY KIND OF MATERIAL

For more details circle NED-516 D8 on enclosed inquiry slip

Now available— SEL-LOK spring pins in beryllium copper

- Superior electrical properties
- Excellent corrosion resistance
- Fast, economical fastening

SEL-LOK spring pins made of beryllium copper give you the speed and economy of self-locking fastening, plus outstanding electrical characteristics. They have high conductivity, are nonsparking and nonmagnetic. In addition, they offer superior corrosion resistance. These properties are combined in a material having 60% the strength of carbon steel, more than ample for most applications. Sold by your authorized SPS distributor in sizes from 1/16 x 3/16 to ¼ x 3½ in. Write for Catalog Sheet 2376. (SEL-LOK spring pins also available in carbon or corrosion-resistant steel, sizes from 1/16 x 3/16 to ½ x 5 in. Request Bulletin 2331.) STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

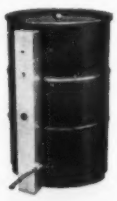
SPS Jenkintown • Pennsylvania

Standard Pressed Steel Co. • The Cleveland Cap Screw Co. • Columbia Steel Equipment Co. • National Machine Products Co. • Nutt-Shel Co. • SPS Western • Standco Canada Ltd. • Unbrako Socket Screw Co., Ltd.

For more details circle NED-517 D8 on enclosed inquiry slip

Aircon VAPOR DEGREASERS

ANY SIZE . . .
Standard or Custom



Aircon Vapor Degreasing Systems are available in a complete line, ranging in size, from the smaller bench and barrel-type units to the larger, permanent, high capacity degreasers.

Aircon Degreasers are:

- GAS, ELECTRIC OR STEAM HEATED
- COMPLETE UNITS WITH ALL SAFETY EQUIPMENT

NO EXTRAS TO BUY!

Low level thermostat and water flow interlock are included at no extra cost.

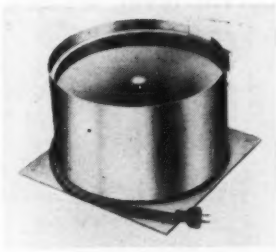
Write today for full information

WE ARE DESIGNERS AND ENGINEERS OF SPECIAL DEGREASING EQUIPMENT. CONSULT US ON YOUR DEGREASING PROBLEMS.

Armstrong & White
CHESWICK, PENNSYLVANIA

For more details circle NED-518 D8 on enclosed inquiry slip

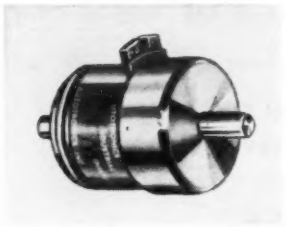
SMALL PARTS FEEDER installs on machine doing work



Self - contained vibratory feeder, consisting of an integrated bowl fixed to electromagnet power drive, is ready to install on the machine doing the work. It plugs into 110-v power source and does not require separate rheostat or control. Each feeder is engineered to handle parts of certain size and shape, such as rivets, screws, nails, grommets, bolts, nuts, washers, pins, slugs, or rings. Made by **Burklyn Co.**, Dept. NED, 3429 Glendale Blvd., Los Angeles 39, Calif.

For more details circle NED-519 D8 on enclosed inquiry slip

ELECTROMAGNETIC CLUTCH miniature unit for 24-28 v dc use



Servo or face mounting, zero backlash, and pilot mounting diameter of 1.125 in. are features of this miniature electromagnetic clutch for tape recorders, calculating machines, coin changers, and other automatic controls. Self-contained Model C-125 has a clutching torque of 40 oz-in. No slip rings are used. When energized, the output and input shafts are coupled together; de-energizing makes both shafts free-running. Standard voltage is 24 to 28 v dc. Made by **Autotronics Inc.**, Dept. 12, Box 812, Florissant, Mo.

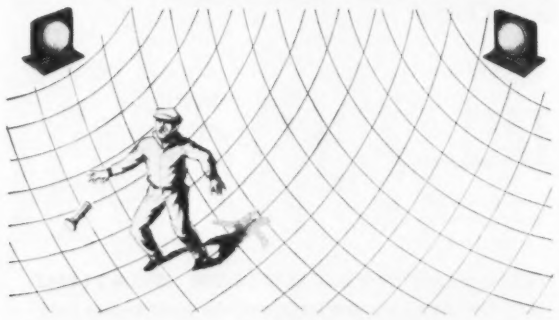
For more details circle NED-520 D8 on enclosed inquiry slip

MICRO-MINIATURE RELAYS operate in −65 to 125° C range

Both current and voltage-sensitive models of this micro-miniature relay will withstand shocks of 50 g as well as vibrations up to 2000 cps at 20 g. Double-pole double-throw Series R600 and single-pole double-throw Series RS600 are rated 2 amp resistive at 28 v dc, or 115 v ac. Continuous operation in −65 to 125° C range is possible. Dual-coil, balanced armature mechanism is hermetically sealed within tiny "crystal can." Current-sensitive single-pole model requires 135 milliwatts operating power, whereas double pole version requires 200 milliwatts. Variety of header styles and mounting arrangements is available. Made by **Iron Fireman Mfg. Co.**, Electronics Div., 2839 S. E. Ninth Ave., Portland 2, Oreg.

For more details circle NED-521 D8 on enclosed inquiry slip

TRAP THIEVES WITH SILENT SOUND!



Get complete wall-to-wall, floor-to-ceiling burglar protection with the Kidde Ultrasonic Burglar Alarm System. Can't be bypassed, can't be sabotaged, completely tamper-proof, even traps lock-ins. Uses high-frequency sound waves which can't be heard. Qualifies for Underwriters' Labs Number Two Certification! Send coupon or write today for booklet and complete information!

WALTER KIDDE & COMPANY, INC.
Ultrasonic Division
424 MAIN ST., BELLEVILLE 9, N. J.

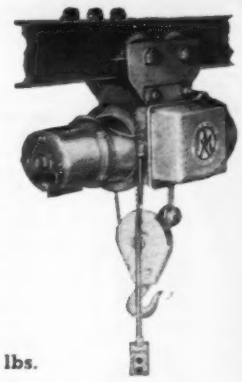
Please send me your Ultrasonic Burglar Alarm System Booklet.

NAME_____
ADDRESS_____
CITY_____ STATE_____

For more details circle NED-522 D8 on enclosed inquiry slip

R&M HOISTS • CRANES • WINCHES

TYPE "J3" WIRE ROPE HOIST



LOW PRICE $680.00*

one or two speeds optional

capacities: 1000—2000—4000 lbs.

write for bulletin 890

Lower limit switch keeps two cable wraps on drum—High torque R & M hoist motor—Two-speed ranges: 60-20, 30-10, 15-5 f.p.m. Single speed: 60, 30, or 15 f.p.m.—Lug, plain, geared, or power trolley mounting—Magnetic disc-type motor brake—Weston-type load brake. Heat treated helical cut gears, and sealed ball bearing equipped throughout. Unit cast, jig bored, aluminum alloy frame. *Price for single speed, lug-mounted hoist 1000, 2000 or 4000 lbs. capacity.

take it up with
ROBBINS & MYERS, INC.
SPRINGFIELD, OHIO | BRANTFORD, ONTARIO

For more details circle NED-523 D8 on enclosed inquiry slip

MAKE IT OF PLASTICS?

HOW? All of the parts illustrated here are made of Synthane industrial plastics. Each one, however, is differently constructed.

1. is machined from laminated sheet stock, 2. is made from a combination of sheet and tube stock, 3. is a tubular form, 4. machined from molded-laminated, 5. is post formed, 6. is molded-macerated, 7. is a combination of Synthane wound on aluminum.

These are a few reasons why a good laminator, such as Synthane, can best fabricate your products. Anyone who knows Synthane will tell you, "Synthane turns out a first class job in good time at a fair price."

SYNTHANE

SYNTHANE CORPORATION
N.E. River Road, Oaks, Pa.

☐ Send me promptly information about Synthane laminated plastics and parts.

Name_____
Address_____
City_____ Zone_____ State_____

For more details circle NED-524 D8 on enclosed inquiry slip

MODERN HEATING FOR INDUSTRY

Reznor gas heaters offer the efficient, economical answer to all these heating problems:

- complete heating systems for new buildings
- replacement of obsolete heating systems
- supplemental heating for trouble spots
- heating for auxiliary buildings
- heat for curing, drying and other process applications

With suspended, duct and free-standing types in all appropriate sizes from 25,000 to 2,000,000 Btu, the Reznor line includes the equipment which is exactly right for *your* plant heating job.

For complete details, write today for your copy of Bulletin GN-57 or give your nearby Reznor distributor a call. You'll find him listed under "Heaters-Unit" in the Yellow Pages.

REZNOR
WORLD'S LARGEST-SELLING DIRECT-FIRED UNIT HEATERS

Reznor Manufacturing Company, 41 Union Street, Mercer, Pennsylvania

▲ For more details circle NED-525 D8 on enclosed inquiry slip ▲

NOW...Cold Forged CAP SCREWS with the Setko "Perfect-Hole" Socket!

GRAIN STRUCTURE follows smooth pattern . . . has added strength.

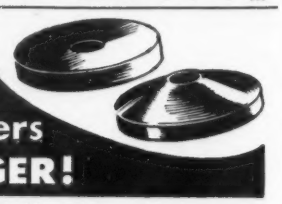
A complete line of Cold Forged Socket Head Cap Screws produced on specially designed machinery assures perfect, chip-free sockets every time. Hex keys insert completely into the "Perfect-Hole" socket *perfectly*. You get maximum gripping area for equally distributed tightening torque . . . Threads are rolled to unmatched precision . . . Available with or without knurled heads in high grade Alloy Steel. Size 8 to ⅝ . . . Isothermal heat treated for extra strength.

Send for the Free Setko Bullseye "Sampler" Puzzle
Get your sample Cap Screws in this fascinating puzzle . . . Compare these "Perfect-Hole" sockets for yourself. Send today for your free Bullseye "Sampler" Puzzle and complete information.

SETKO Set Screw & Mfg. Co.
324 130 Main St., Bartlett, Ill. (Chicago Suburb)

▲ For more details circle NED-526 D8 on enclosed inquiry slip ▲

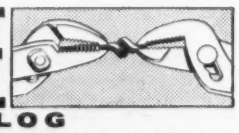
CREST Heat-Pruf™ Faucet Washers LAST LONGER!



- Independent laboratory tests prove it!
- Last from 2 to 10 times longer by actual test!
- Eliminate nuisance and high cost of washer replacement!
- One of thousands of dependable Crest plumbing maintenance products — attested by Master Plumbers!

Try it yourself! Rugged "Pliers Test" proves tough Crest washers can really take it. Severe torture tests will not harm Crest washers.

FREE CATALOG



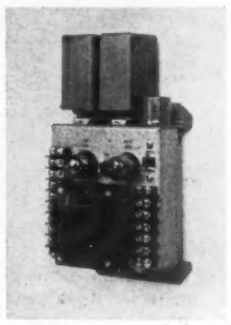
Write today for complete 200-page 1958 Crest Catalog illustrating over 3,000 Quality Plumbing and Heating Maintenance Specialties.

Gentlemen: At no obligation, please send me a FREE copy of the new 1958 Crest Catalog.
Name ..... Title .....
Company or Institution .....
Address .....
City ..... State .....

CREST MANUFACTURING COMPANY
4-65 48th Avenue, Long Island City 1, New York

▲ For more details circle NED-527 D8 on enclosed inquiry slip ▲

CONTROL RELAY
used with transducer transmitter for level, weight, pressure, etc.

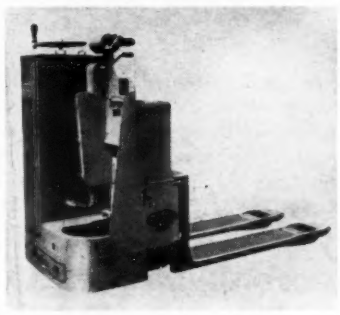


Instantaneous action is obtained with the Atcotran electronic control relay, designed for operation with a transmitter using an Atcotran linear differential transformer transducer. The transmitter may be any of the numerous types available for measuring pressure, motion, flow, force, level, weight, position, thickness, width, and vacuum.

The relay is sensitive to signals generated by 0.0001-in. armature movement. It also repeats to within 0.0001 in. Actuating force is 0.01 gram. Various relay control actions are available. Relay measures 3⅞ x 1 5/16 x 8¼ in., is rated at 115 v, 60 cycles, and has a contact rating of 3 amp at 115 v, 60 cycles, noninductive. Made by **Automatic Timing & Controls, Inc.**, Dept. 82S, King of Prussia, Pa.

▲ For more details circle NED-528 D8 on enclosed inquiry slip ▲

ELECTRIC PALLET TRUCK
rider type for uneven floors



Automatic equalizing of loads on both wheels, regardless of floor conditions, permits the Transveyor riding type electric pallet truck to negotiate uneven floors without difficulty. Drive and idler wheels are steered simultaneously, a feature said to increase tire life. The low-lift truck is 32 in. wide, and its 9-in. wide forks are offered in 30 to 60-in. lengths. Wheel bases range from 44 to 74 in. With a 48-in. long, 42-in. wide pallet, the truck can stack in a 78-in. aisle and make a right angle turn in 65 in. Deadman control, two-wire electric system, controlled plugging, and Class H silicone-insulated motors are featured. Models EPE-4 and EPE-6 have 4000 and 6000-lb capacities, respectively. Made by **Automatic Transportation Co.**, 149 W. 87th St., Chicago 20, Ill.

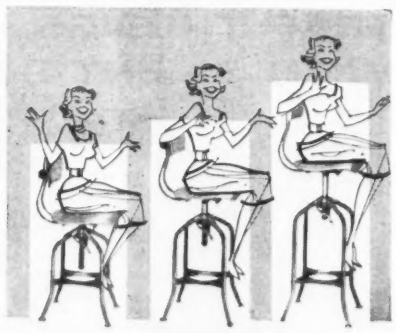
▲ For more details circle NED-529 D8 on enclosed inquiry slip ▲

Air-Powered Actuator

Conoflow Corp.—Series 50 cylinder Conoflow actuators are subject of 12-page Bulletin B-50-3. This device is a pneumatic power linear actuator for use in process and other industries for throttling control service. Other applications include proportional control of valves, speed changers, pumps, rheostats, autotransformers, and flow regulators.

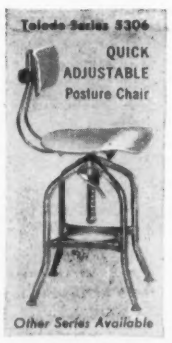
▲ For more details circle NED-530 D8 on enclosed inquiry slip ▲

from SHORT to TALL...



Adjustment is fast, easy, quiet and safe

TOLEDO PRODUCTION SEATING
offers posture adjustment to suit them all!



Scientifically designed Toledo PRODUCTION SEATING maintains correct body posture, to keep employees alert and efficient—improve productivity and plant safety.

Choose from Toledo's complete line. Get PRODUCTION SEATING exactly suited to each operation in your plant.

FEATURES . . . HEIGHTS . . . Quick-adjustable, Adjustable, Fixed, Floor Contacts: 5 kinds to choose. SEATS: Swivel, non-swivel, steel, wood, cushioned. BACKREST: Posture adjustable—spring back or straight.

SEND FOR USEFUL NEW PRODUCTION SEATING analysis chart and literature. No obligation.

TOLEDO METAL FURNITURE COMPANY
1003 South Hastings Street, Toledo 7, Ohio

▲ For more details circle NED-531 D8 on enclosed inquiry slip ▲

Here's the efficient, economical answer to troublesome dumping problems

WORK-O-MATIC multi-duty box

with patented drop-bottom feature

Catalog No. 89 is available to give you the economy story on versatile Work-O-Matic boxes and integrated handling in and out of process. Write The Union Metal Manufacturing Co., Canton 5, Ohio.

UNION METAL
Material Handling Equipment

▲ For more details circle NED-532 D8 on enc

Announcing Another outstanding development soon f

FUSETRON LOW-

FUSETRON Low-Peak Fuses are made in all standard sizes above 60 amperes — both 250 and 600 volt ranges.

In 60 amperes and smaller sizes tests show that FUSETRON dual-element fuses have sufficient current limitation to protect circuit and components in all normal cases.

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532 D8 on enclosed inquiry slip ▲

ment soon to be available by the makers of BUSS FUSES.

OW-PEAK FUSES

have CURRENT LIMITING added to High Interrupting Capacity and Long Time-Lag

FUSETRON Low-Peak Fuses provide a high degree of protection against the thermal and mechanical stresses that heavy fault currents often impose on switches of other circuit components.

These fuses have a current limiting element that cuts off fault current so fast it cannot build up to a damaging peak.

New FUSETRON Low-Peak Fuses are built on the same principle as FUSETRON dual-element Fuses. They have:

the same High Interrupting Capacity
the same Time-Lag to hold harmless current surges
PLUS *Greater Current Limitation to restrict fault to LOW PEAK*

FUSETRON Low-Peak Fuses can be interchanged with FUSETRON dual-element Fuses.

Their application in any part of the electrical system requires no testing or complicated calculations because — they can be installed without upsetting proper coordination over the range of useful loads and normal faults.

If planning new installations, keep FUSETRON Low-Peak Fuses in mind for those locations where peak fault current must be held to low value.

BUSSMANN MFG. DIVISION
University at Jefferson, St. Louis 7, Mo.

McGRAW EDISON

533 D8 on enclosed inquiry slip ▲

'he complete line of

SKF *bearings*

ound the corner

They're at your SKF bearing distributor—ready for prompt delivery. You'll find all types and sizes—plus the kind of technical assistance that keeps them rolling smoothly for you. 7809

SKF

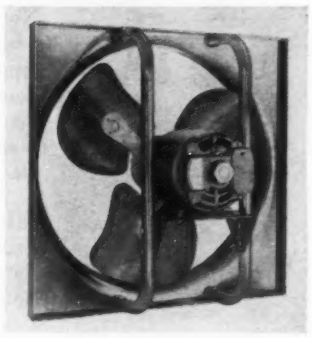
EVERY TYPE—EVERY USE

Spherical, Cylindrical, Ball, and "Tyson" Tapered Roller Bearings
*Reg. U. S. Pat. Off.

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.

534 D8 on enclosed inquiry slip ▲

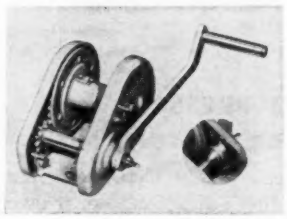
DIRECT-DRIVE FANS for ventilating and exhaust uses



Lightweight, efficient Type BA direct-drive fan (illustrated) for general ventilating use has a venturi orifice and square mounting panel. It uses sleeve bearing, semienclosed motors, and has high PFMA-certified ratings. Also offered is Type BG utility exhaust fan with two-speed controls and outlet box. It also has PFMA-certified air ratings. Made by **Chelsea Fan & Blower Co.**, Dept. NED, 639 South Ave., Plainfield, N. J.

▲ For more details circle NED-535 D8 on enclosed inquiry slip ▲

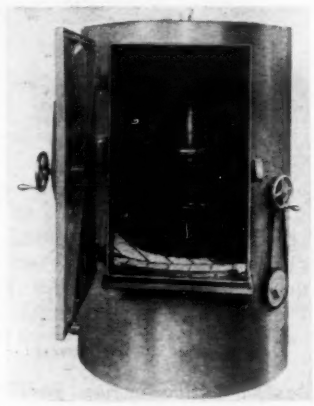
SAFETY-BRAKE WINCH releases for free-spooling



Automatic and load actuated, the friction disc type brake assures safe operation of this No. 254 winch. When raising or lowering a load, the brake automatically holds the load whenever the handle is released. Brake has "off" position for spooling of line from the winch. Made by **Fulton Co.**, 1912 S. 82nd St., Milwaukee 19, Wis.

▲ For more details circle NED-536 D8 on enclosed inquiry slip ▲

STEEL DRUM CLEANER all sizes cleaned inside and out



Both inside and outside of steel drums and barrels are cleaned on a limited production basis by this machine which handles all sizes of open head and closed head bung type containers. Drums are rotated by a handwheel to clean their entire surface. Solvents can be used as the cleaning agent, or steam coils can be furnished to heat a caustic or detergent solution. Accumulated sediment is removed through a clean-out door. Screens protect the pump from foreign matter in the solution. Made by **Richmond Machine Co.**, 3383 Richmond St., Philadelphia 34, Pa.

▲ For more details circle NED-537 D8 on enclosed inquiry slip ▲

How to keep your rubber tile floors looking "better than new"

Partial Contents

- Initial treatment of new rubber tile floors
- Low-cost daily maintenance
- Re-finishing, patching traffic lanes
- How to restore "new" look to old rubber tile
- Materials and equipment

Here's a complete, step-by-step guide for the care of your rubber tile floors.

It explains the famous MULTI-CLEAN METHOD, developed and perfected after many years of research and testing by practical floor scientists.

By using the *right material*, the *right equipment*, and the *right technique* as described in this bulletin, your rubber tile floors will look better and last longer. It will also take less time and fewer gallons of material to maintain them.

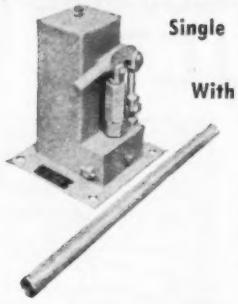
Your local MULTI-CLEAN Distributor will gladly supply you a copy with no obligation on your part . . . or you may write . . .

MULTI-CLEAN Method

MULTI-CLEAN PRODUCTS, Inc. Dept. NE-48-48, 2277 Ford Parkway, St. Paul 16, Minn.

▲ For more details circle NED-538 D8 on enclosed inquiry slip ▲

HAND HYDRAULIC PUMP



Single and Double Designs to 20,000 Psi
With or Without Reservoir

160 Cubic Inch Reservoir with 8" x 8" Base Plate. Optional Size Piston: ⅜", ½", ¾", 1". Handle length: 18 inches. Catalog No. 160

We specialize in hand pump units to operate in temperatures from minus 65F to plus 160 F and with any capacity reservoirs required.

The single pump with ½", ¾", 1" or 1½" piston now available in stainless steel.

WILLIAM S. PINE
Hydraulic Hand Pumps for 1001 Uses
1635 E. 22nd St., Los Angeles 11, Calif.

▲ For more details circle NED-539 D8 on enclosed inquiry slip ▲

For HIGHEST ELECTRICAL & MECHANICAL *Efficiency!*

New **JONES 2400 SERIES PLUGS & SOCKETS**

Improved Socket Contacts. Four individual flexing surfaces. Position contact over practically their entire length.

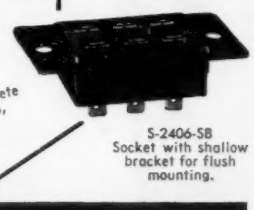
Both Plug and Socket Contacts mounted in recessed pockets greatly increasing leakage distance, INCREASING VOLTAGE RATING.

Plug and Socket Contacts cadmium plated. Add to appearance of your equipment.

Interchangeable with Jones 400 Series.

Ask for Catalog 21, Complete line Jones Plugs, Sockets, Terminal Strips.

P-2406-CCT
Plug—with cable clamp in top.



S-2406-SB
Socket with shallow bracket for flush mounting.

Jones **HOWARD B. JONES DIVISION**
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

▲ For more details circle NED-540 D8 on enclosed inquiry slip ▲

FREE CATALOG

tells how **DY-NAMIC BALANCING CAN IMPROVE YOUR PRODUCTION!**

24 PAGES OF VALUABLE INFORMATION LIKE THIS:

- How To Balance Parts From 4 Oz. to 8 Tons!
- What is Dy-Namic Un-balance?
- The Difference Between Static and Dy-Namic Un-balance!
- How To Balance Rotating Parts Statically and Dy-Namically In One Operation!
- How Other Plants Are Using Dy-Namic Balancing To Save Time and Money!
- How Dy-Namic Balancing Improves Product Performance!
- How Dy-Namic Balancing Reduces Wear, Eliminates Noise And Vibration.
- Details, Specifications And Engineering Data About Complete Line of "Bear" Industrial Dy-Namic Balancing Machines.

This New "Bear" Catalog shows you how Dy-Namic Balancing can aid your production these two ways:

1 Improve finished product performance by eliminating mechanical failures and assuring greater efficiency and longer life. Gives you the quality standards to help meet many government contract specifications.

2 Keep your own equipment operating without interruption. Periodic checking and Dy-Namic Balancing of rotating parts in your machinery and production equipment will reduce bearing wear and noise and eliminate costly downtime for repairs.

Write today for your free copy. Bear Manufacturing Co., Dept. N-5, Rock Island, Illinois.

782RR

"BEAR" STATIC AND DY-NAMIC BALANCING MACHINES

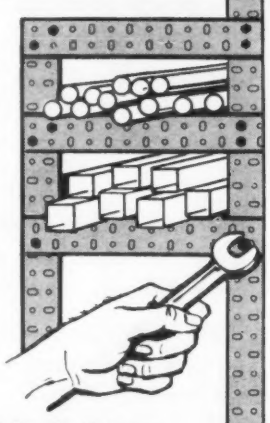
▲ For more details circle NED-541 D8 on enclosed inquiry slip ▲

BUILD QUICKLY, CUT COST WITH COLSON STRUCTO ANGLES

STRUCTO

An ordinary wrench, a cutter and supply of Colson-engineered STRUCTO angles and there is no limit on how much you can cut equipment costs. Maintenance men can quickly and easily build work benches, bins, partitions, machinery stands, storage platforms and racks...hundreds of pieces of equipment...to meet individual design needs.

Reusable STRUCTO angles are cut for positive bolting line-up at every 1½-inch point. Available in two sizes and two gauges (interchangeable) 10 to 12-foot lengths, 10 angles to a bundle. Stores in one tenth of space required for lumber.



Your local Colson distributor can help you. Call him or write to:

COLSON CORPORATION
Special Products Div. Somerville, Mass.

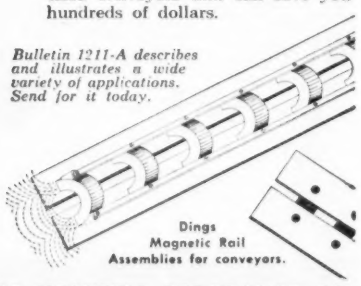
▲ For more details circle NED-542 D8 on enclosed inquiry slip ▲

MAGNETIZE!

for space-saving vertical conveying

DINGS permanent, non-electric magnetic rail assemblies cut handling costs, increase capacity, and save space in handling steel products. Parts, cans, bottle caps, nails, scrap, stampings can be quickly conveyed up or down at any angle by continuous, guaranteed-permanent magnetic force. No electricity is required. No failure is possible. Dings will gladly cooperate with your engineers in designing magnetized conveyors that can save you hundreds of dollars.

Bulletin 1211-A describes and illustrates a wide variety of applications. Send for it today.



Dings

DINGS MAGNETIC SEPARATOR CO.
4758 W. Electric Ave., Milwaukee 46, Wisc.
CM-158-1/9

▲ For more details circle NED-543 D8 on enclosed inquiry slip ▲

which IDLER SUPPORTS entire belt?

The idler on the left has increased belt life 400% and more because it supports the belt across its entire width . . . leaves no unsupported gaps between rolls like conventional idlers. Neoprene discs, instead of steel idlers, cushion the load . . . eliminate "bumping" of material from idler to idler. Get the complete Limberoller story from Joy Manufacturing Company, Oliver Building, Pittsburgh 22, Pa.

Write for free bulletin 219-54

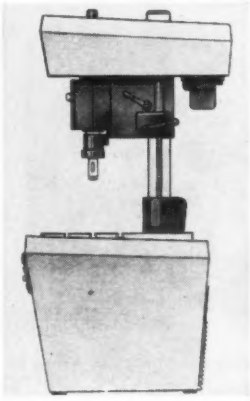
WSW L 6968-219

JOY MANUFACTURING COMPANY

In Canada: *Joy Manufacturing Company (Canada) Limited, Galt, Ontario.*

▲ For more details circle NED-544 D8 on enclosed inquiry slip ▲

TAPPING MACHINE has 220 to 1200 rpm spindle speeds

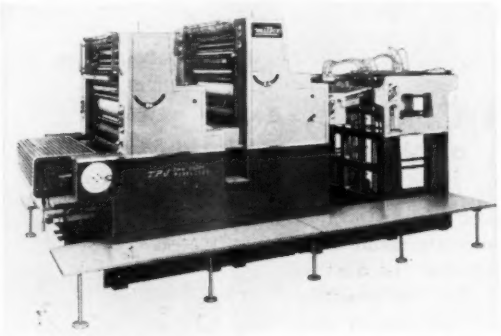


Normally furnished with a flanged quill for multiple tapping head use, this production lead screw tapping machine is also offered with interchangeable single spindle noses with No. 1, 2, or 3 Morse taper adjustable adapters. These noses are easily mounted options. Range of spindle speeds is from 220 to 1200 rpm. Headstock is adjustable from 4 to 34 in. from table to nose. Stroke of the quill type spindle is ⅝ to 4 in. Another option is an air-operated rapid approach and rapid return device with 3-in. stroke, for the machine quill. Interchangeable lead screws and lead screw nuts cover a range from 6 to 32 pitch. Standard accessory multiple spindle adjustable tapping heads are available for use on the machine. Made by **Wisconsin Drill Head Co.**, Dept. N-458, Butler, Wis.

▲ For more details circle NED-545 D8 on enclosed inquiry slip ▲

TWO-COLOR OFFSET PRESS does perfecting or two-color work

Exacting color work at speeds up to 7000 sheets per hour can be performed by the TPJ 23 x 36-in. Two Color-Perfector, a sheet-fed offset printing press. Con-



version to perfecting (printing both sides of the sheet simultaneously) at speeds up to 6000 sheets per hour requires only a few minutes. Press is suited for production of catalogs, brochures, pamphlets, and house organs. Made by **Miller Printing Machinery Co.**, Dept. NED, 1117 Reedsdale St., Pittsburgh 33, Pa.

▲ For more details circle NED-546 D8 on enclosed inquiry slip ▲

Design & Production Facilities

Gray Mfg. Co.—Resources, physical facilities, experience, and reputation of this company in engineering, research, design, and production of electronic and electro-mechanical products and assemblies are described in 12-page brochure.

▲ For more details circle NED-547 D8 on enclosed inquiry slip ▲

toughest scoops and shovels made

WOOD'S Moly BRAND

Mo-lyb-den-um alloy blades

Pat. Steel I-Beam Prevents Handle Breakage

Workers like them for hang, balance, and perfect finish . . . and they last 2 to 3 times as long as other grades. Blades guaranteed uniform gauge, hardness, and tensile strength. Guaranteed not to split or crack. Guaranteed uniform quality 12 to the dozen. Cheapest shovels you can buy for long hard service, and workers take care of tools they like.

THE WOOD SHOVEL & TOOL CO.
Piqua, Ohio

▲ For more details circle NED-548 D8 on enclosed inquiry slip ▲

NEW J-E Industrial SOLENOID VALVES

Low in cost
Unusually Dependable
Proven Design Features

The new Jackes-Evans "SERIES J" Solenoid Valves for industrial uses incorporate the accepted fine construction and operating features found in standard J-E valves, and are offered at an exceptionally low price.

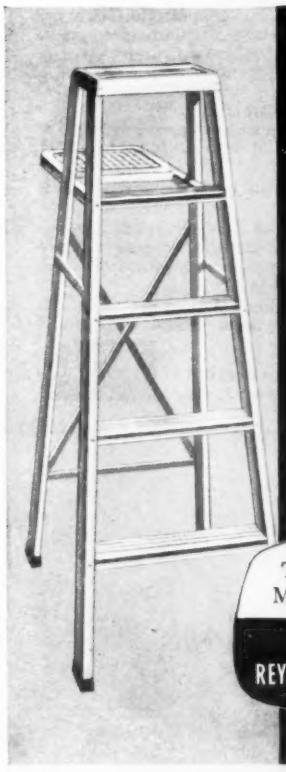
Use them for the control of air, water, brines, light oils, low pressure steam, industrial and L.P. gases as well as other non-corrosive fluids. Pilot operation. Maximum pressure differential of 150 psi. Mount in any position. Only two moving parts. Exceptionally durable synthetic diaphragm. Thoroughly proven in millions of test cycles and *on the job* in a wide variety of applications.

You'll be amazed at their low cost, pleased with their long life and trouble free operation. Write for Bulletin J-57.

Controls Division
JACKES EVANS MANUFACTURING COMPANY
4427 Geraldine Ave. • St. Louis 15, Mo.

▲ For more details circle NED-549 D8 on enclosed inquiry slip ▲

Strong, Lightweight ALUMINUM LADDERS



Save Time, Effort, Money

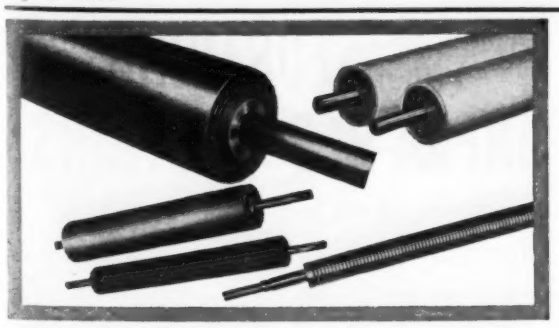
The Finest Products Made with Aluminum are made with REYNOLDS ALUMINUM

Aluminum ladders are easier, much easier, to move from job to job. This means savings in time and labor. And because they keep their shape, won't warp, twist or rot, aluminum ladders are safer—always keep their feet on the ground.

When purchasing ladders for use in your plant, remember their extra long life makes actual cost lower. For the names of leading ladder manufacturers who use strong, lightweight, rustproof Reynolds Aluminum, write *Reynolds Metals Company, P.O. Box 1800-NO, Louisville 1, Kentucky.*

Watch Reynolds All-Family Television Program "DISNEYLAND", ABC-TV.

▲ For more details circle NED-550 D8 on enclosed inquiry slip ▲



Specify WILBOW for Custom Built Rubber Covered Rolls

WILBOW is fully equipped to recover, or furnish complete with cores, different types of rolls; for glass machine, meat packers, squeegee, steel mill, feed, tanners, office duplicating, photocopy, paper mill and gypsum board and other special machinery.

Roll coverings can be supplied in natural or synthetic rubber stocks including silicone of various hardnesses, compounded to meet your particular problems, in various finishes, such as Smooth, Crepe, Fluted, Corrugated, Grooved, or with outer covering of duck, or in any other finish to better serve the purpose for which the rolls are intended. Let us know of your roll requirements. Our engineers will be pleased to make recommendations.

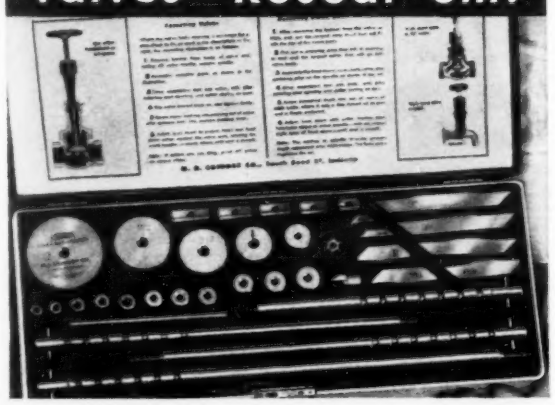
Send for **New WILBOW Catalog** *It will become your handbook of rubber goods*

Wilbow

The WILLIAMS-BOWMAN RUBBER Co.
1954 South 54th Avenue • Cicero 50, Illinois
Mfrs. of molded, punched, extruded and cut rubber goods. Specialists in producing rubber covered rolls, silicone rubber parts and bonding rubber to metal

▲ For more details circle **NED-551 D8** on enclosed inquiry slip ▲

Don't junk leaky valves—Reseat 'em!



Pays for itself on the first 2 jobs!

Reseats flat and tapered seat globe or angle valves—all bibbs, faucets—quickly and accurately. The saving, over tearing out and renewing leaky valves and fixtures, is tremendous.

Cutters operating under screw feed, leave worn, scored seats glass smooth, level, absolutely tight. The cutter rotates on a level plane and is advanced by slight turns of the feed screw until the job is done.

A guide pilot centers each cutter; a tapered cone centers each spindle. Perfect alignment is inevitable. Cutters guaranteed. Write for literature!

2" for ¼" to 2" valves and ¼" to ¾" bibbs . . $50.25
3" for ¼" to 3" valves and ¼" to ¾" bibbs . . $65.50

M. B. SKINNER CO., South Bend 21, Ind.—Established 1898

▲ For more details circle **NED-552 D8** on enclosed inquiry slip ▲

NEW CUT-OFF WHEEL

averages 33% longer life!

New Bay State manufacturing techniques control wear rates of bond, reinforcement and abrasive in the BZ2AA so closely that this cut-off wheel *averages* one third more cuts on any given type of work piece than its nearest competitor.

Result: Substantial savings in both wheel cost and down-time.

Your Bay State distributor can give you full details or write direct for technical data sheet.

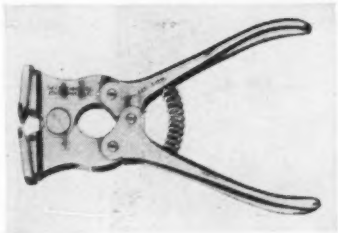
BAY STATE WHEELS of PROGRESS

BAY STATE ABRASIVES

Bay State Abrasive Products Co., Westboro, Mass. *In Canada:* Bay State Abrasive Products Co. (Canada) Ltd., Brantford, Ontario. *Branch Offices:* Bristol, Conn., Chicago, Cleveland, Detroit, Pittsburgh. *Distributors:* All principal cities.

▲ For more details circle **NED-553 D8** on enclosed inquiry slip ▲

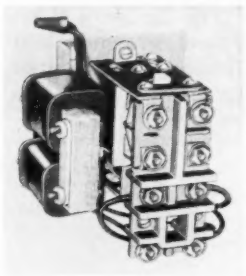
CUT NIPPERS
have adjustable, replaceable jaws



Available as No. 1X for cutting wire and as No. 235X with wider jaws for tile, these cut nippers have powerful, efficient leverage. Tungsten carbide tips on the removable, regrindable, adjustable jaws assure long life. Stud and stop screw inside the handles holds the compression spring. It can be adjusted to limit the pressure on the jaws to avoid forcing them together unnecessarily. Made by **L. S. Starrett Co.**, Dept. ED, Athol, Mass.

▲ For more details circle **NED-554 D8** on enclosed inquiry slip ▲

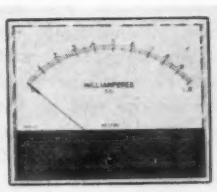
LIQUID LEVEL CONTROL
is floatless, electrode type unit



Suited for use in conductive liquids including acid and alkaline types, this floatless, electrode type, liquid level control is UL and CSA listed. Offered in two and three pole types, it has contacts rated 10 amp on 110-v ac. It can be used in any liquids having a resistance of less than 20,000 ohms. General purpose, watertight, explosionproof, and JIC enclosures are available. Made by **Charles F. Warrick Co.**, 1966 W. 11 Mile Rd., Berkley, Mich.

▲ For more details circle **NED-555 D8** on enclosed inquiry slip ▲

PANEL INSTRUMENTS
feature long, easily read scale



Good natural scale illumination and readability due to the long scale are features of the self-shielding series of rectangular panel instruments. Models 1371 and 1375 have Cormag mechanisms and can be mounted on magnetic or nonmagnetic panels without adjustment. Respective accuracies are within 2 and 1 per cent. For high sensitivity requirements, Models 1373 and 1377 are available with outside magnet construction.

Accuracies are within 2 and 1 per cent, respectively. Model 1377 also has an optional accuracy within ½ per cent. All models have clear plastic cover, measure 7¾ x 6¼ in., are 1.01 in. thick, and have lance type pointers as standard. Pear type or knife edge pointers with mirror scale are optional. Made by **Daystrom, Inc.**, Weston Instruments Div., Newark 12, N. J.

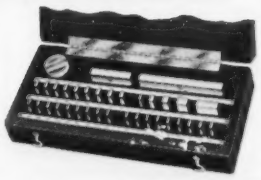
▲ For more details circle **NED-556 D8** on enclosed inquiry slip ▲

ULTRA-CHEX GAGE BLOCKS

for Every Need!

Supplied in one Superior Accuracy
5 MILLIONTHS ± ACCURACY

82 Block Set
$260.00 Complete
This Set will supply the needs of any discriminating shop that must work to gage-block precision.



34 Block Set $125.00
WITHOUT OPTICAL PARALLEL

9 Block Set
$24.75
OPTICAL PARALLEL **$6.00**

QUICK DELIVERY ON ALL SETS

All Sets at "Money Saving Prices" due to Mass Production Methods.

WRITE FOR FULLY ILLUSTRATED CATALOG — Code GIPFY

GEORGE SCHERR CO., Inc.
COMPLETE LINE OF PRECISION INSTRUMENTS
200 ND LAFAYETTE STREET • NEW YORK 12, N.Y.

▲ For more details circle **NED-557 D8** on enclosed inquiry slip ▲

Bellows AIR-POWERED pencil-size GRINDER

grinds • cuts deburs • polishes engraves

Weighs only 5¾ ounces. Has only one moving part. Operates on 80-100 lbs. of air—turns up 100,000 RPM. Takes cutting tools of any diameter up to ¼" (⅛" shank). Comes complete with air-filter and lubricator and 6' of flexible hose.

Write for Bulletin
Address Dept. NED-458.

1008-B

The Bellows Co.
AKRON 9, OHIO

▲ For more details circle **NED-558 D8** on enclosed inquiry slip ▲

SURETY SHOWS YOU HOW
YOU CAN CONTROL GLOVE COSTS

1 Surety's slide rule chart accurately guides your glove selection by showing how various glove materials withstand chemicals, oils, acids, solvents, etc. It's yours free—send for it now.

2 Choose the gloves best suited for your needs by telling us what you subject them to on the job. We'll make a recommendation and send samples.

3 Put the Surety gloves we recommend on the job—check their service life and the users comfort. Then compare and see how Surety gloves keep costs at the lowest level.

The Surety Rubber Co.,
Carrollton, Ohio
Please send us a Surety glove selector.

THE SURETY RUBBER CO. Carrollton, Ohio
Dept. N

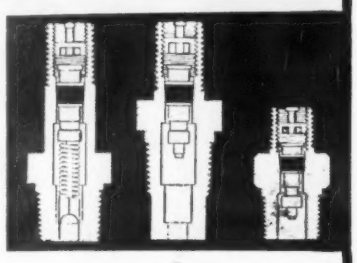
Company .....
Address .....
City ..... Zone ..... State .....
Your Name ..... Title .....
WE USE GLOVES FOR .....
(Tell us full details on your letterhead)

In Canada: Safety Supply Co., Toronto

▲ For more details circle **NED-559 D8** on enclosed inquiry slip ▲

See these Multi-purpose

MINIATURE VALVES



— designed and manufactured from 7/16-in. hexagon brass and have 1-8 in.-27 dry seal pipe threads. . . . . .

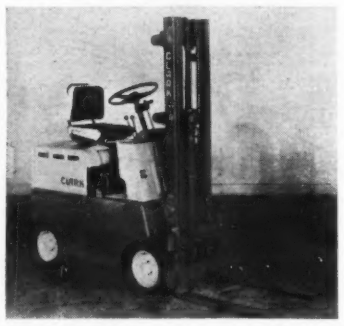
These have the same internal function as tire valves. They accommodate long and short valve cores and valve caps in water pumps, vacuum and pressurized containers, fire extinguishers and inflatable air products. Cores impervious to Freon and propane gases, acids, lubricants, greases, and certain liquids are available. Write for detailed information.

A. G. KADDIS SCREW PRODUCTS, INC.
314 Hudson Ave.
Rochester 5, N. Y.

A KADDIS SYN-CRO-MATIC PRODUCT ROCHESTER N.Y.

For more details circle NED-560 D8 on enclosed inquiry slip

ELECTRIC FORK TRUCK is versatile 2000-lb capacity unit

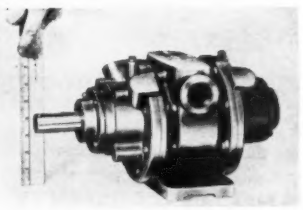


Styled by Harley Earl, Inc., Clarklift electric power fork lift truck line is being introduced with this initial 2000-lb capacity model. Carbon pile drive control gives smooth acceleration from standstill to full speed, and is sensitive enough for inching during delicate stacking operations. Ease of maintenance and accessibility are features. A long wheelbase is combined with short over-all length for maneuverability. Power hydraulic system affords full control over lifting.

This Model EC-20 will travel up to 6½ mph forward or reverse and has a full-load lifting speed of 50 fpm. Turning radius is 62 in. The upright will tilt 12 degrees back and 6 degrees forward to facilitate load handling. Made by **Clark Equipment Co.**, Industrial Truck Div., 1952 Arze St., Battle Creek, Mich.

For more details circle NED-563 D8 on enclosed inquiry slip

7-HP AIR MOTOR speed is infinitely variable



Explosionproof Model 16AM rotary air motor delivers 7 hp and cannot be damaged by overloads or stalling. From 300 rpm up, its speed is infinitely variable with any low cost air valve control. Construction features include ball bearings, dual seals, oil lubrication, and six vanes sliding in rotor slots. Vanes automatically compensate for wear. Motor is 14⅜ in. long, 8 in. wide, and 7⅝ in. high, including base. Foot or base mount is standard, and four tapped holes on the end provide for flange mounting to gear box or other driven units. Operation is on 30 to 90-psi air. Rating at 90 psi is 5.8 hp at 1500 rpm, or 7 hp at 2000 rpm. Standard rotation is counterclockwise. Clockwise rotation and a muffler are available. Made by **Gast Mfg. Corp.**, Dept. 61, Box 117N, Benton Harbor, Mich.

For more details circle NED-564 D8 on enclosed inquiry slip

Electrical Control Equipment

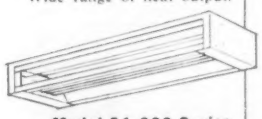
Zenith Electric Co.—64-page Catalog 18 gives information, technical data, and prices on all types of automatic electrical control equipment. Booklet is conveniently indexed in four sections, covering automatic transfer switches, contactors, special controls, and timing devices. Practically all electrical timing and control requirements are covered by the wide range of equipment described.

For more details circle NED-565 D8 on enclosed inquiry slip

Assemble these **FOSTORIA INFRA-RED SECTIONS**

easily and at low cost for many heating jobs

Model 48-000 Series sections use G-30 lamps in 125, 250, 375 and 500 watt sizes. Low first cost. Efficient, economical operation. Wide range of heat output.



Model 51-000 Series sections use quartz lamps, quartz tubes, or metal rods. Ideally suited for a wide range of heating jobs. Choice of aluminized or gold reflectors.

Complete set of parts available . . . full instructions provided

Many uses include spot heating jobs, laboratory applications, production heating, baking, drying, degreasing, curing, etc. Save time and cut processing costs.

Features. Precision built sections. Top quality materials. Exceptionally high efficiency rating. Sections available in various lengths and widths.

Easy assembly. Any maintenance or electrical worker can assemble with instructions provided. Portable or permanent type ovens can be assembled from Fostoria parts.

Available through electrical wholesalers everywhere. Ask for free literature and specifications. Or write direct to factory: Dept. N458.

THE fostoria PRESSED STEEL CORPORATION Fostoria, Ohio 5801

LARGEST MANUFACTURER OF COMPLETELY ENGINEERED INFRA-RED OVENS AND COMPONENTS IN U.S.A.

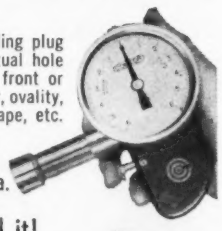
For more details circle NED-567 D8 on enclosed inquiry slip

You know these firms
They all had the problem:

Airesearch Mfg. Co.
Allison Div.
Apex Electrical Mfg.
Bendix Aviation
Buick Motor Div.
Century Electric Co.
Chicago Pneu. Tool
Chrysler Corp.
Continental Motors
Curtiss-Wright
Detroit Transmission
Douglas Aircraft
Fairchild Engine & Airplane Co.
Falk Corp.
Ford Airplane Engine
Ford Motor Co.
General Electric Co.
Hamilton Standard Div.
Harris Seybold Co.
Homelite Corp.
Hughes Aircraft Co.
Int. Harvester Co.
Jacobs Mfg. Co.
Lycoming-Spencer Div.
McDonnell Aircraft
Montrose Div. Bendix
National Lead
Northrop Aircraft
Pontiac Motor Div.
Scintilla Magneto
Steel Products Eng.
Studebaker-Packard
Sylvania (Atomic Div.)
Warner Gear Div.

GAGING PRECISION HOLES
They all use
COMTORPLUG
Why not you!
Profit by their experience.

Unique expanding plug gage shows actual hole size, measures front or back taper, ovality, barrel shape, etc.



⅛" to 10" dia.

Find out how they solved it!
Comtor Co., 73 Farwell St., Waltham 54, Mass.
REQUEST BULLETIN 50

For more details circle NED-561 D8 on enclosed inquiry slip

Handiest TOOL IN THE PLANT!

NEW BULLETIN Gives all the facts. Ask for Bulletin 903.

CLEMENTS **Cadillac**® BLOWER-SUCTION CLEANERS

Portable — versatile — economical. Simplest, quickest way to clean motors, machinery and other equipment. Pays for itself in any plant. Ask your dealer for a demonstration.

4 BLOWER-SUCTION MODELS ...including powerful Model HP with 2-speed motor for double duty. Easy starting at low speeds prevents blowing of fuses. All models available with attachments for handling many special tasks.

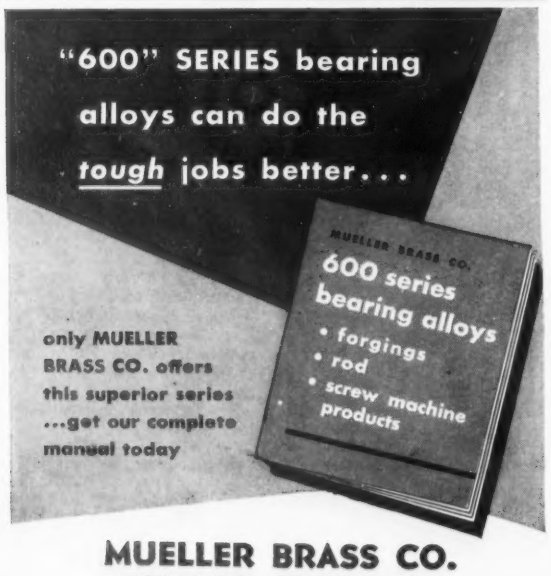
HANDLES 101 CLEANING JOBS Blows dust, grit, chips and filings from hard-to-reach places. Use it as a suction cleaner for all kinds of jobs, or even to salvage bits of rare metal. Other models for annealing, soldering, and for preheating for bending.

BLOWER DIVISION | **CLEMENTS MFG. CO.** 6627 S. Narragansett Ave., Chicago 38, Ill.

SINCE 1910 Specialists in Quality Cleaning Equipment

For more details circle NED-568 D8 on enclosed inquiry slip

"600" SERIES bearing alloys can do the *tough* jobs better...



only MUELLER BRASS CO. offers this superior series ...get our complete manual today

MUELLER BRASS CO.
PORT HURON 37, MICHIGAN

please send me a copy of your ENGINEERING MANUAL FM-3000
NAME
COMPANY
ADDRESS

For more details circle NED-562 D8 on enclosed inquiry slip

Now Available from stock
TWO NEW PRODUCTS

—made to standard specifications of ring manufacturers and available from stock. High speed steel and carbide tipped.

O-RING GROOVING TOOLS
Bokum grooving tools produce the precise groove needed for O-rings—meet the exact specifications of ring manufacturers. 15 different tools are available from stock for single O-rings, or for O-rings requiring one or two back ups. Larger diameters feature 2-piece construction. Write for Catalog O-R. Dept. T

RETAINING RING GROOVING TOOLS
A range of 29 tools is available to cut exact grooves for standard or inverted retaining rings, bowed, beveled and self-locking retaining rings. 2-piece construction on larger diameters permits use of any length bar to compensate for the distance of the groove from the end of the work piece. Write for Catalog R-R.

See Bokum Exhibit Booth No. 414 A.S.T.E. Show May 1-8

TRADE MARK REG. U.S. PAT. OFF.

BOKUM TOOL CO. INC. 14775 Wildemere Ave. Detroit 38, Mich.

For more details circle NED-566 D8 on enclosed inquiry slip

New McCaskey System
STOPS COSTLY WAITING AT TOOL CRIB!

- **No wasted time at tool crib**
- **More working time at machine**
- **Increased machine production**

New advances in McCaskey's famous Tool Control System completely eliminate time lost by highly-paid machine operators drawing and returning tools.

Crib attendants or machine operators write specially designed tool orders in advance. Operators simply pick them up or they may be delivered to machines.

The McCaskey System cuts costs so many ways it pays for itself in short order. Write today for *free* booklet NED-458. See complete demonstration at ASTE Booth 732.

McCASKEY Industrial Controls
Production • Inventory • Tools • Maintenance • Costs
Division of
VICTOR ADDING MACHINE CO.
3900 N. Rockwell Street Chicago 18, Illinois
Victor-McCaskey Ltd., Galt, Ontario, Canada
Manufacturers of Business Machines, Cash Registers, Business and Industrial Systems, Electronic Equipment, Electri-Cars

For more details circle NED-569 D8 on enclosed inquiry slip

"CADILLAC"
LOW-COST
WINCH HOIST

Every Hoist PRE-TESTED for MAXIMUM PERFORMANCE MAXIMUM SAFETY

Check these features:

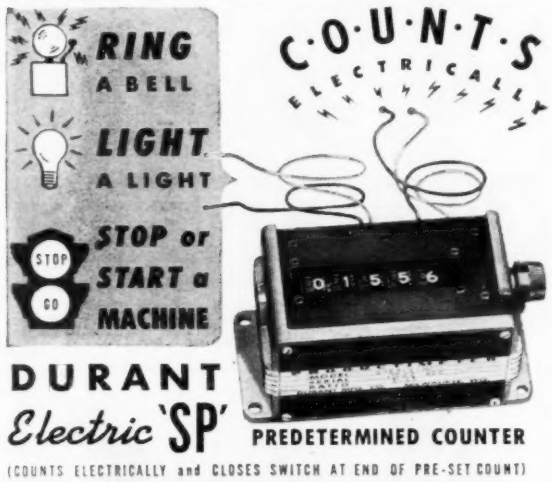
- Precision-built of certified materials.
- High-strength, corrosion-resistant TENZ-ALOY castings. Tensile strength 32,000.
- Light weight and compact.
- Stainless steel springs and shafts.
- Manganese bronze cam reduces pawl wear.
- "Safety-valve" handle breaks at severe overload.
- Drop-forged, heat-treated hooks. Safety hooks available.
- Equipped with galvanized, pre-formed aircraft wire rope.
- Tested to full 50% overload.
- Full year guarantee against defective workmanship and materials.

Easy to operate. Extremely durable. Simple to maintain.

Model 202WX 1½-ton capacity equipped with 20' of 3/16" galvanized wire rope. Lifting ratio approx. 30 to 1. Weight 10 lbs. Min. distance between hooks 25". 20' single, 10' double line. Models from ½ to 2 tons cap. Prices: $29.50 and up.

For your files: Complete specifications and price list for all models. SEND INQUIRY CARD TODAY.

ALUMINUM PRODUCTS, INC.
P.O. BOX 1462-N FORT LAUDERDALE, FLORIDA
▲ For more details circle NED-570 D8 on enclosed inquiry slip ▲



DURANT
Electric **'SP'** PREDETERMINED COUNTER

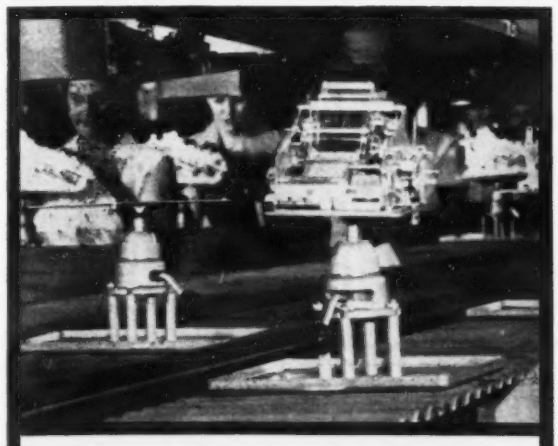
(COUNTS ELECTRICALLY and CLOSES SWITCH AT END OF PRE-SET COUNT)
Eliminates costly over-runs or time consuming under-runs. Actuated by Photo Electric Cell, Tube, Relay, or Contact Switch. Counter can be located where desired. Predetermined count may be set at any figure to 99,999. Hundreds of applications in all phases of production and instrument work.

SMALL • COMPACT • RUGGED • FAST • ACCURATE

Send for Catalog No. 56

DURANT MANUFACTURING CO.
1922 N. Buffum St. Milwaukee 1, Wis. 22 Thurbers Ave. Providence 5, R. I.
Representatives in Principal Cities

PRODUCTIMETERS SINCE 1879 *Count Everything*
▲ For more details circle NED-571 D8 on enclosed inquiry slip ▲



NO HOLDS BARRED AT BURROUGHS

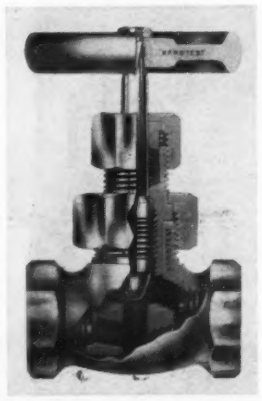
PowRarm work positioners are shown here at the Burroughs Corp., Detroit. PowRarm holds set-ups at any desired angle, freeing both hands. They never become obsolete, no matter how often you re-tool. Before investing in special fixtures again, try PowRarm.

ATTACH THIS AD TO YOUR LETTERHEAD FOR FREE DEMONSTRATION OR LITERATURE!

WILTON TOOL MFG. CO., INC.
Schiller Park, Ill.
Ned-48 *Sold By Leading Distributors The World Over*

▲ For more details circle NED-572 D8 on enclosed inquiry slip ▲

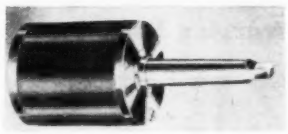
NEEDLE VALVE
for high pressure service



Throttling, regulating, or shut-off applications in high pressure service are uses for the N-20 globe type needle valve. Suited for gaseous or liquid gases, the union-bonneted valve has a forged carbon steel body and a heat treated stainless steel stem operating in a sleeve yoke. Various grades of stainless steel are also offered in the body construction. Backseating construction permits repacking while under pressure. Packing chamber contains Teflon-impregnated, formed asbestos. Maximum working pressure is 10,000 psi at 70° F and maximum operating temperature is 500° F. Special packing can be furnished for higher temperature ratings. Made by **Kerotest Mfg. Co.**, 2525-A Liberty Ave., Pittsburgh 22, Pa.

▲ For more details circle NED-573 D8 on enclosed inquiry slip ▲

AUTOMATIC CHUCK
eliminates lost tool changing time



Capable of doing the work of several spindles, this fully-automatic Wallstrom chuck permits changing of tools without stopping the spindle. This reportedly converts 95 per cent of the normally lost tool-changing time to productive time. When the load increases, the grip becomes tighter. A wide range of sizes is available. Made by **American Machine & Foundry Co.**, AMF Tool Div., 224 N. Glenwood Ave., Bloomfield, N. J.

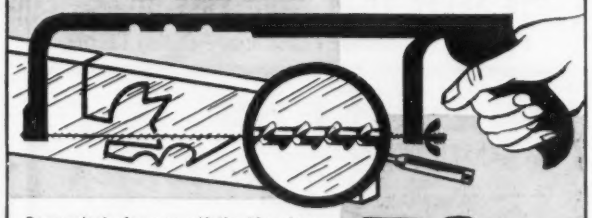
▲ For more details circle NED-574 D8 on enclosed inquiry slip ▲

BARREL PUMP
dispenses lubricants and chemicals

Metal piston valve of the Model BP-16 barrel pump is unaffected by any type of chemical. The easily installed and operated hand pump will handle lubricants, alcohol, kerosine, and linseed oil, among other products. Delivery is about 1 qt per stroke. The 18-gage cylinder is 1½ in. OD. Cast metal pump is threaded to fit a 1½ to 2-in. bung hole of 15 to 55-gal drums. Cast aluminum spout will take a garden hose coupling. Made by **Plews Oiler, Inc.**, 703 S. Seventh St., Minneapolis, Minn.

▲ For more details circle NED-575 D8 on enclosed inquiry slip ▲

FREE TO INDUSTRIAL USERS... (Limited Time Only)



Demonstrate for yourself the big advantage of now being able to saw up or down, left or right, or in circles with Tyler SPYRAL Hacksaw, Coping Saw and Bandsaw Blades.

Saw any material including metal, wood, plastic, tubing, etc. without chipping or tearing. Blades are of rugged spring tempered steel, hardened for maximum cutting life. SPYRAL Bandsaw Guides & Blades available for Delta 14" Bandsaws and all DO-ALL machines.

Since your FREE blade will be distributed by your industrial supplier, it is imperative that you include his name in coupon.

Tyler SPYRAL HACKSAW BLADE!

MAIL COUPON FOR FREE SAMPLE

TYLER MANUFACTURING CO., INC. Dept. D-4
1005 W. Arbor Vitae Ave., Inglewood 7, Calif.
Please send FREE sample SPYRAL HACKSAW BLADE and full information about all Tyler Products.
Name_____
Company's Name_____
Address_____
City & State_____
My Industrial Supplier is_____

▲ For more details circle NED-576 D8 on enclosed inquiry slip ▲

• GREATER ACCURACY
• BETTER PERFORMANCE

Write For New No. 800 Catalog

C. A. NORGREN CO.
3405 SO. ELATI STREET • ENGLEWOOD, COLORADO
▲ For more details circle NED-577 D8 on enclosed inquiry slip ▲

Now you can count on 2-day shipment of standard grades of laminated plastics from the new Formica Streamliner stocks. You'll get faster shipment of all standard grades thanks to new inventories of "treated," or semi-processed materials which have now been set up.

Twenty-five "special purpose" grades – now offered for the first time – offer new design opportunities.

Your additional new grade requirements will be met through expanded research and development facilities now available – including Formica's new resin research laboratories and resin processing plant. Write for free copies of the new Streamliner folder and Stock List-Price List. Formica Corporation, subsidiary of American Cyanamid, 4551 Spring Grove Ave., Cincinnati 32, Ohio.

the complete laminated plastics service

Application Engineering
Fabricating
Research
Customer Stock Service

FORMICA CYANAMID 4

Formica Corporation, subsidiary of American Cyanamid 4551 Spring Grove Ave., Cincinnati 32, Ohio

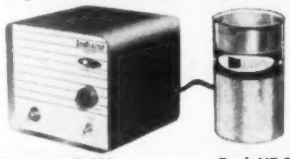
☐ Please send me.....copies of your new STREAMLINER folder and STOCK LIST.
☐ Would also like a copy of your Formica-4 booklet.

Name_____
Title_____
Company_____
Street_____
City_____ Zone____ State_____ FI-1774

▲ For more details circle NED-578 D8 on enclosed inquiry slip ▲

NEW! *The lowest-cost ultrasonic cleaning and chemical processing unit available anywhere!*

narda
SONBLASTER
$175



Generator G-201 Tank NT-201

Now, no one need put off buying ultrasonic equipment because of cost! Narda's mass production techniques have done it again — this time, a 35-watt unit, complete with stainless steel transducerized tank with tremendous activity, at the lowest price in the industry — and with a 2-year warranty!

Hot lab apparatus, medical instruments, electronic components, optical and technical glassware, timing mechanisms—the Narda SonBlaster cleans 'most any mechanical, electrical or horological part or assembly you can think of—and cleans faster, better and cheaper. It's perfect, too, for brightening, polishing, decontaminating, sterilizing, pickling, deburring, and plating; emulsifying, mixing, impregnating, degassing, and other chemical process applications.

What's more, two tank sizes are available, and there's a duty cycle timer at only $10 additional. For more information, write to Dept. NED-4.

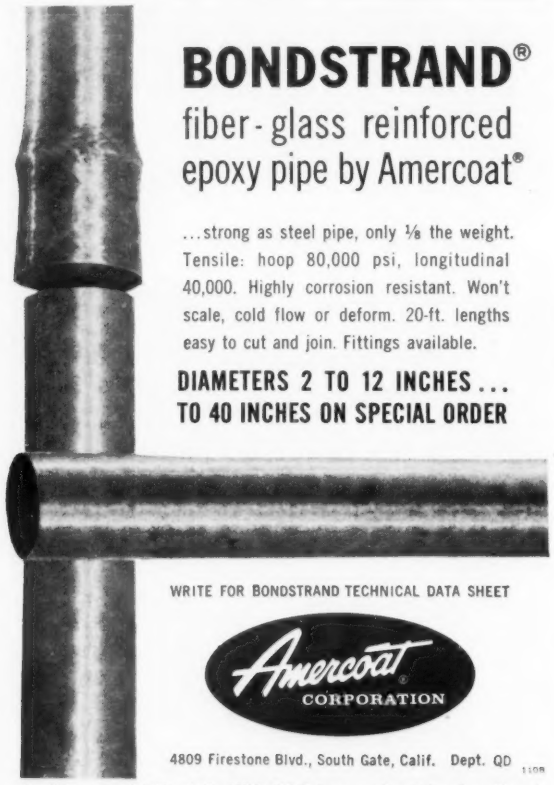
SPECIFICATIONS

Generator Model No.	Tank Model No.	Interior tank size (in.)	Tank Capacity	Price
G-201	NT-201	4-5/8 deep x 3-5/16 diam.	1/8 gal.	$175
G-201	NT-202	6-1/2 deep x 4-7/8 diam.	3/8 gal.	$210
Model G-202 Generator (same as G-201, but with duty cycle timer) available with either tank above, $10 additional.				

The SonBlaster catalog line of ultrasonic cleaning equipment ranges from 35 watts to 2.5 Kw, and includes transducerized tanks as well as immersible transducers which can be adapted to any size or shape tank you may now be using.

the narda ultrasonics corporation
118-160 HERRICKS ROAD • MINEOLA, L. I., NEW YORK
Subsidiary of The Narda Microwave Corporation

For more details circle NED-579 D8 on enclosed inquiry slip



BONDSTRAND®
fiber-glass reinforced epoxy pipe by Amercoat®

...strong as steel pipe, only ⅛ the weight. Tensile: hoop 80,000 psi, longitudinal 40,000. Highly corrosion resistant. Won't scale, cold flow or deform. 20-ft. lengths easy to cut and join. Fittings available.

DIAMETERS 2 TO 12 INCHES... TO 40 INCHES ON SPECIAL ORDER

WRITE FOR BONDSTRAND TECHNICAL DATA SHEET

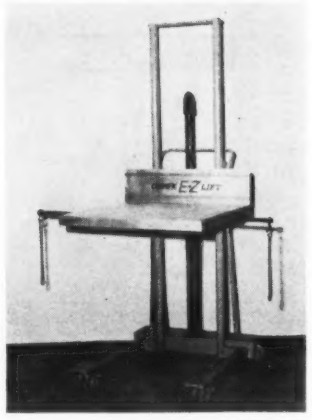
Amercoat CORPORATION
4809 Firestone Blvd., South Gate, Calif. Dept. QD

For more details circle NED-580 D8 on enclosed inquiry slip

use Test-Proven
ACCURATE TAPES
FRICTION.... RUBBER.... PLASTIC
Send today for our most recent bulletin describing details.
ACCURATE MANUFACTURING CO.
GARFIELD, NEW JERSEY

For more details circle NED-581 D8 on enclosed inquiry slip

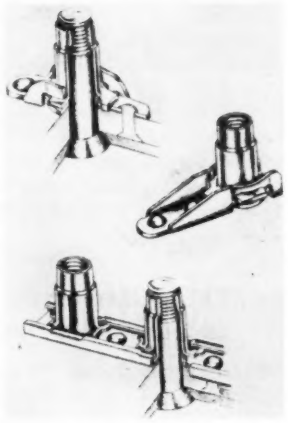
HYDRAULIC LIFT raises or pulls loads up to 70 in.



Manual operation of a pump enables the Model LTF-500 E-Z Lift to either raise a load on its platform or pull it up from the floor to heights up to 70 in. Lowering is by opening a release valve. Two retractable steel rods of ⅞-in. diameter can be withdrawn from within the table to pull up loads that are impossible to get under with the platform. Lift is built of tubular steel with welded joints and has shielded rollers traveling with the uprights. An overload bypass valve is incorporated. Equipped with four swivel casters, the lift has a lowered height of 7¼ in., 30 x 30-in. platform, lifting capacity of 750 lb, and weight of 240 lb. Made by **Crown Controls Co.**, 50 S. Washington St., New Bremen, Ohio.

For more details circle NED-582 D8 on enclosed inquiry slip

SELF-LOCKING ANCHOR NUTS join members of varying thickness



Self-locking, deep-counterbore, floating anchor nuts speed production of airframe and aircraft components where members of varying thicknesses must be joined. Design allows use of constant length bolts in the assembly joints. Configurations are Type LHA3006 two-lug anchor nut, Type LHA3207 one-lug anchor nut, and the G16 gang channel assembly. They withstand service temperatures up to 550° F and meet military tensile, twist-out, and push-out requirements. Lug configurations are made in 10-32, ¼-28, and 5/16-24 thread sizes. Straight gang channel type will be made to order. Made by **Elastic Stop Nut Corp. of America**, 2331 Vauxhall Rd., Union, N. J.

For more details circle NED-583 D8 on enclosed inquiry slip

Industrial Mercury Lamps

General Electric Co., Large Lamp Dept.—Complete technical reference material on line of mercury lamps and transformers is contained in 8-page Folder LS-103. Performance and application data for high bay, flood, blacklight, and other lighting needs are tabulated.

For more details circle NED-584 D8 on enclosed inquiry slip

Designed
TO SOLVE YOUR PROBLEMS OF
Monitoring — Counting — Registration — Quality Control

Cigarettes
Lamp Bulbs
Drugs
Pharmaceuticals
Chewing Gum
Sewing Machines
Toilet Articles
Printing
Flashlights
..and general packaging for mass production!

ESS
Miniaturized
"ELECTRIC-EYES"

The Ess Miniaturized "Electric-Eyes" are designed to give long trouble-free service. They are rugged in construction, yet small enough for installation in "impossible" places — **directly on the production line.** The new 1958 ESS units give precision monitoring by percentage cut-off of direct beam or reflected light. Send for Bulletin 570.

Direct Cut-Off

Don't guess — SPECIFY ESS!

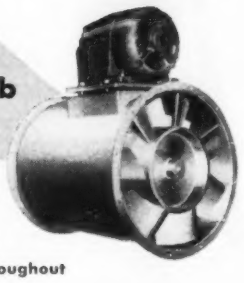
Reflector Type

ESS
ELECTRONIC INSTRUMENT and CONTROLS for INDUSTRY TO KEEP OPERATIONS WITHIN LIMITATIONS
INSTRUMENT COMPANY
BERGENFIELD 4, NEW JERSEY

For more details circle NED-585 D8 on enclosed inquiry slip

7 reasons why Hartzell Vaneaxial Blowers

- last longer
- do a better job



- all-welded construction
- heavier gauge steel throughout
- dynamically-balanced, aluminum-alloy impellers
- certified ratings
- no maintenance problems
- totally-enclosed belts
- top quality, name-brand motors

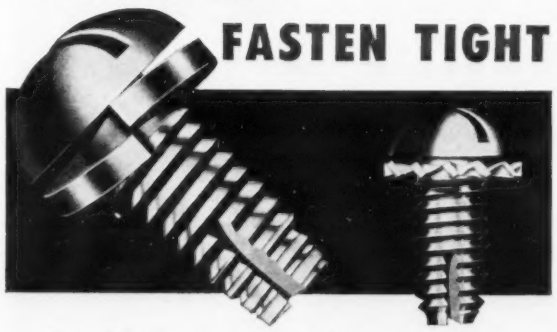
For complete details, call your nearby Hartzell field engineer or write for Bulletin A-110.

HARTZELL PROPELLER FAN CO.
Div. of Castle Hills Corp.
62 Thomas Blvd., Piqua, Ohio
ENGINEERING OFFICES IN PRINCIPAL CITIES

For more details circle NED-586 D8 on enclosed inquiry slip

For more details circle NED-587 D8 on enclosed inquiry slip

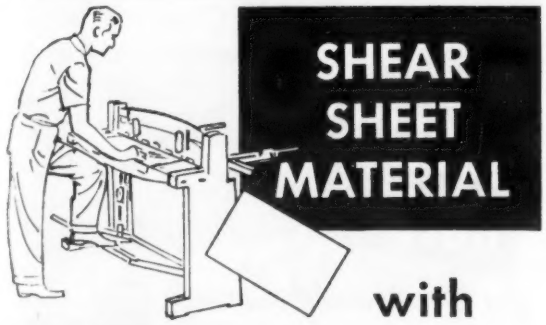
FIT RIGHT FASTEN TIGHT



Production and profits improve with
EATON-RELIANCE
THREAD-CUTTING SPRINGTITES® & SEMS
SEND FOR FREE ENGINEERING BULLETIN S-49A.

EATON RELIANCE DIVISION
MANUFACTURING COMPANY
509 CHARLES AVENUE • MASSILLON, OHIO
SALES OFFICES: NEW YORK • CLEVELAND • DETROIT
CHICAGO • ST. LOUIS • SAN FRANCISCO • LOS ANGELES

For more details circle NED-588 D8 on enclosed inquiry slip



with

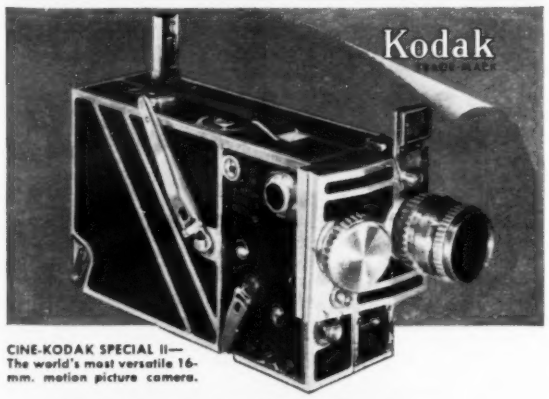
PEXTO MACHINES

A complete line of industrial Power- and Foot-Operated Squaring Shears, each in several sizes. Specifically designed for cutting sheet metal, plastic, fiber, rubber, insulation, Fiberglas, and textiles. Built-in accuracy, ruggedness, smooth operation, and long service life.

New Squaring Shear Bulletins on request.

THE PECK, STOW & WILCOX COMPANY
SOUTHINGTON, CONN. U. S. A.

▲ For more details circle NED-589 D8 on enclosed inquiry slip ▲



CINE-KODAK SPECIAL II—
The world's most versatile 16-mm. motion picture camera.

Make movies that work for you!

In almost every industrial activity—engineering, manufacturing, employee training, research, safety and methods evaluation—in-plant movies are the fastest, easiest, and most effective method for putting across your story.

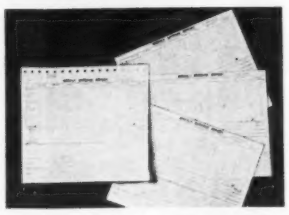
And for on-the-job movie making, many leading industrial companies have chosen the Cine-Kodak Special II Camera. It has the versatility to handle almost any type of job. Yet its simplicity of operation enables you to get high-caliber results almost as easily as taking home movies.

WRITE FOR FREE BOOKLET, V1-3, describing the Cine-Kodak Special II.

EASTMAN KODAK COMPANY, Rochester 4, N. Y.

▲ For more details circle NED-590 D8 on enclosed inquiry slip ▲

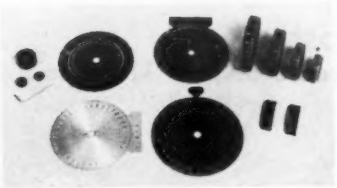
EXPENSE REPORT FORM
for reimbursed expense records



Accurate reimbursed expense records, required of individual employees and company accounting departments by the Department of Internal Revenue, can be kept on this weekly expense report form. It accommodates a daily accounting of all expenses incurred during a given week. The standard form is of a carbon-interleaved Zipset construction, available in two or three-part sets. Size is 8½ x 7 in. after separation. Boxes of 500 (triplicate) and 750 (duplicate) forms are offered. Made by **Standard Register Co.**, Dept. PR, Dayton 1, Ohio.

▲ For more details circle NED-592 D8 on enclosed inquiry slip ▲

DIALS, VERNIERS & KNOBS
graduations accurate to 6 minutes



Most applications can be served with series of standard precision disc dials, ring dials, drum dials, verniers, hubs, and knobs. Disc types range in diameters from 2 to 6 in., whereas drum dials from 1½ to 3 in. in diameter have 0.375-in. ID to accommodate hubs in shaft sizes of ⅛, 5/32, 3/16, and ¼ in. Graduations are accurate to 6 minutes. Aluminum verniers, available in four finishes, allow readings to 6 minutes, 15 minutes, and 1/1000 revolution. Made by **Ackerman Engravers**, 458 Broadway, New York 13, N. Y.

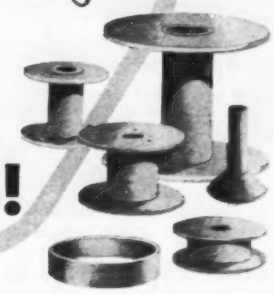
▲ For more details circle NED-593 D8 on enclosed inquiry slip ▲

PRESSURE SWITCH
maximum capacity is 85 lb

Top wiring terminals, no-drift pressure settings, pressure connectors, and four compact enclosure styles are offered in the Series PS pressure switch. It has an 85-lb maximum capacity and is rated through 1 hp, 110-220 v, single-phase and polyphase. Application is to water pumps, low pressure air compressors, paint sprayers, and other air or water systems requiring automatic control of pressure between preset limits. Pressure settings are made at the factory to meet customer specifications. Readjustment is possible. Made by **Furnas Electric Co.**, 1009 McKee St., Batavia, Ill.

▲ For more details circle NED-594 D8 on enclosed inquiry slip ▲

There are many uses for **SONOCO PAPER SPOOLS!**



Sonoco paper spools have been the answer to many a need . . . in production, packaging and shipping . . . for numerous companies in many industries.

For example, they're perfect as self-dispensing carriers for tapes, rope, wire and cord.

Sonoco paper spools can be made to meet your exact requirements, or you can choose from a wide range of standard sizes.

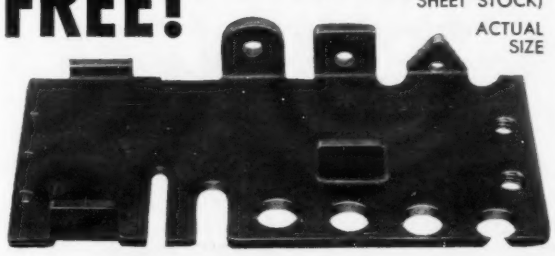
Sonoco also makes all kinds of paper products for industrial use such as cones, tubes, cores and molded shapes.

Ask Sonoco for information, samples and prices!

SONOCO PRODUCTS COMPANY
2763 HARTSVILLE, S. C.
"PLANTS FROM COAST TO COAST"

▲ For more details circle NED-596 D8 on enclosed inquiry slip ▲

FREE! (SAE 1010-3/32" CRS—SHEET STOCK) ACTUAL SIZE



Short-Run Design Suggestion Sample

ENGINEERS responsible for the design function will welcome this practical short-run stamping sample which *visibly* shows various common conditions that occur in metal fabrication.

An actual production sample, it indicates typical mechanical problems met with in terms of type of material, temper and thickness.

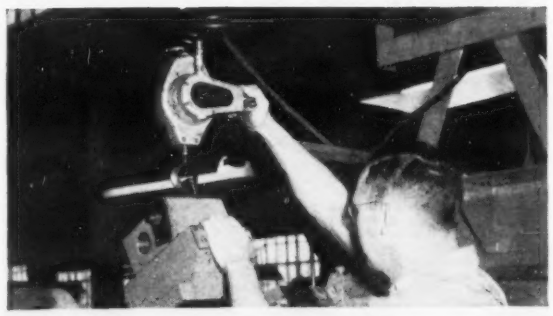
REQUEST SAMPLE AND BULLETIN DDS-2 ON YOUR LETTERHEAD

DAYTON ROGERS *Manufacturing Company*

MINNEAPOLIS 7E, MINNESOTA

▲ For more details circle NED-597 D8 on enclosed inquiry slip ▲

HANDY NEW WAY TO LIFT
. . . machine tool parts . . . or workpieces



Machine shops are finding new uses for the versatile Keller 86A-1 air hoist. Just as natural as lifting by hand, the 86A-1 supplies added muscle power for repetitive tool handling and machine loading. Handles troublesome 25- to 150-pound loads with ease and safety. One hand controls hoist; other guides load.

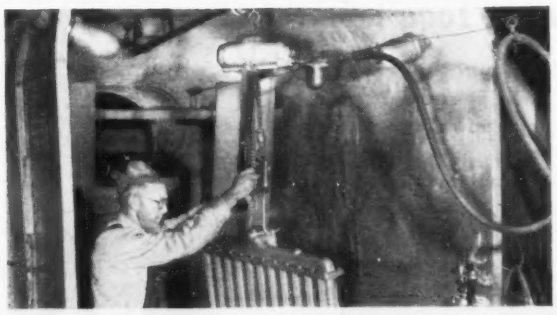
Easily installed or moved. No overhead tracks or hose trolleys. Safety hook at upper end of cable fastens to any support. Write for Bulletin 86.

ENGINEERING FORESIGHT—PROVED ON THE JOB
IN GENERAL INDUSTRY, CONSTRUCTION, PETROLEUM AND MINING
Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario

GARDNER - DENVER

▲ For more details circle NED-591 D8 on enclosed inquiry slip ▲

AIR HOISTS FOR SAFETY
. . . no explosion hazard in paint spray booth



Non-sparking axial-piston air motor assures safe operation in dusty, gaseous or chemical atmospheres. Gardner-Denver air hoists provide easily controlled speed for a swift, steady lift—with gentle starts and accurate stops—for loads to 4000 pounds. Powerful brake prevents racing and holds load positively. Safety stops and safety hooks. Optional one-hand push-button control gives operator remote control, added protection.

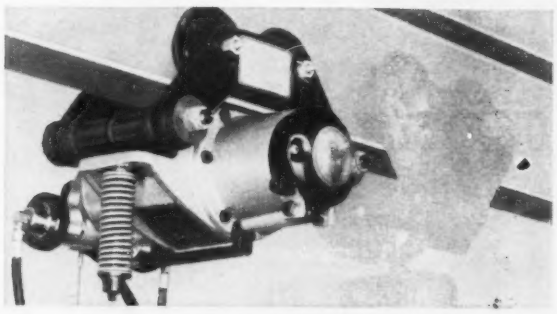
Gardner-Denver's line of Keller air hoists is available in seven lifting capacities from 150 to 4000 pounds. Write for Bulletin 86.

ENGINEERING FORESIGHT—PROVED ON THE JOB
IN GENERAL INDUSTRY, CONSTRUCTION, PETROLEUM AND MINING
Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario

GARDNER - DENVER

▲ For more details circle NED-595 D8 on enclosed inquiry slip ▲

NEW HOISTRACTOR
adds push-pull power to any beam hoist



New Keller "Hoistractor" is an air-powered hoist trolley that connects by drawbar to any beam hoist, rides same beam. Hoist lifts and lowers . . . "Hoistractor" moves hoist and load, with one-hand control of all four movements.

"Hoistractor" speed ranges from creep to full-load speed of 70 fpm. Axial-piston air motor exerts 250-lb. pull on drawbar. Sensitive air controls for smooth, accurate spotting. Brake operates independently from air supply. Send for Bulletin 87-1.

ENGINEERING FORESIGHT—PROVED ON THE JOB
IN GENERAL INDUSTRY, CONSTRUCTION, PETROLEUM AND MINING
Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario

GARDNER - DENVER

▲ For more details circle NED-598 D8 on enclosed inquiry slip ▲

P-K® hardened Screwnails give you nail driving speed plus screw holding power

Fasten sheet metal to wood...wood to wood in seconds!

For the finest fasteners made, insist on Parker-Kalon...the name you can trust. Get samples from leading distributors who stock P-K Screwnails . . . or write:

IF IT'S P-K IT'S O.K.

PARKER-KALON® fasteners
Parker-Kalon Division • General American Transportation Corporation • Clifton, New Jersey

▲ For more details circle NED-599 D8 on enclosed inquiry slip ▲

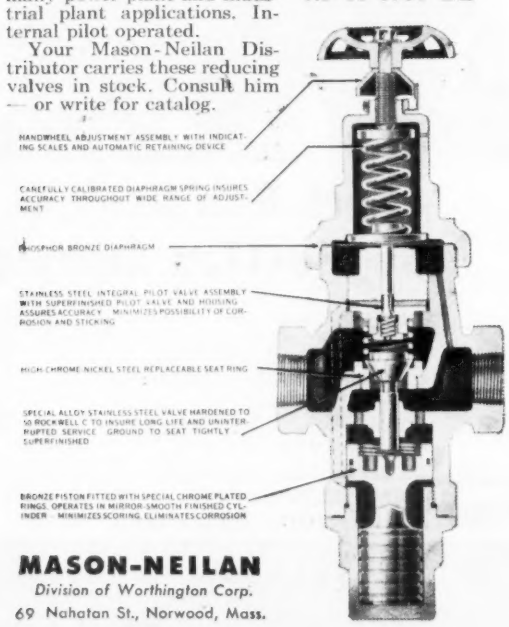
MULTI-PURPOSE REDUCING VALVE

Provides Sensitive, Accurate Control of Steam

M-N No. 11

An excellent regulator for many power plant and industrial plant applications. Internal pilot operated.

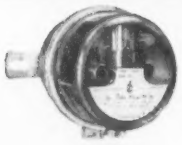
Your Mason-Neilan Distributor carries these reducing valves in stock. Consult him — or write for catalog.



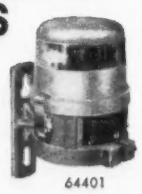
MASON-NEILAN
Division of Worthington Corp.
69 Nahatan St., Norwood, Mass.

MASONEILAN

▲ For more details circle NED-600 D8 on enclosed inquiry slip ▲


63300C

PHOTOELECTRIC CONTROLS for OUTDOOR LIGHTING


64401

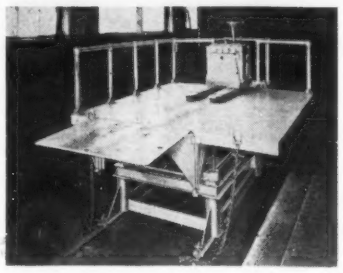
Fisher-Pierce photoelectric controls provide dependable, automatic control of lights regardless of time of day, season or weather. Lights are switched on at the same daylight value each day, off when daylight returns. Non-mechanical, they never need setting or re-setting, even after power failures. The basic F-P circuit has proven dependable, rugged and trouble-free by more than nine years' use, in controlling lights on aircraft obstructions, signs and in store windows; in parking, loading and storage areas; in street lighting and other installations. Load capacities from 300 to 6000 watts; integral and auxiliary protective devices; wide variety of mounting arrangements; SPST, SPDT, DPST contacts; turn-on settings from 1 to 500 foot-candles.

Write for descriptive bulletins, outlining your requirements.

THE FISHER-PIERCE CO., INC.
86 PEARL STREET, BOSTON 85, MASS.

▲ For more details circle NED-601 D8 on enclosed inquiry slip ▲

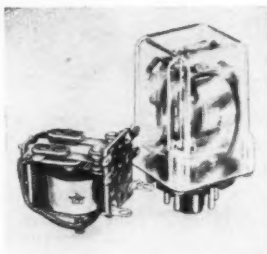
ADJUSTABLE LOADING DOCK maintains level with truck beds



Advantages afforded by the Portelvator variable height loading dock are maintenance of constant level with truck beds and that it can be positioned and removed by an overhead crane. Platform measures 12 x 10 ft exclusive of extensions which form the ramp between platform and truck, and the "pigeonhole" for parking the fork truck. Elevator will lift 10 tons from 36½ to 59 in. at speed of 13 ipm. It is powered by 5 hp, 220-440 v, three-phase, 60-cycle crane hoist motor. Safety features include a limit switch, four-point support, and mechanical power transmission. Made by **Hamilton Tool Co.**, 901 Hanover St., Hamilton, Ohio.

▲ For more details circle NED-602 D8 on enclosed inquiry slip ▲

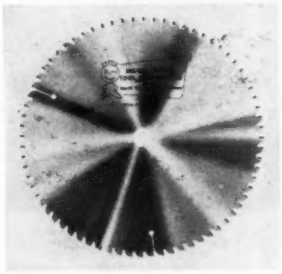
GENERAL PURPOSE RELAYS contacts rated 5 amp at 115 v ac



High contact reliability is combined with small size and light weight in Frame 214 general purpose relays, available in single, double, and three - pole double-throw types. Contacts are rated 5 amp at 115 v ac and coils to 115 v ac and dc. Grade 5 melamine bonded glass fiber insulates contact supports, and wide hinge maintains accurate contact alignment. Open types and units enclosed in clear plastic with octal bases are available. Made by **Struthers-Dunn, Inc.**, Lambs Road, Pitman, N. J.

▲ For more details circle NED-603 D8 on enclosed inquiry slip ▲

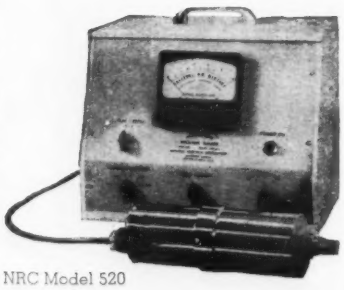
CARBIDE TIPPED SAW BLADES for cutting nonferrous metals



This Superior line of carbide-tipped saw blades is engineered for cutting aluminum, copper, brass, bronze, and other nonferrous sheets, bars, tubes, and extrusions. Special thin kerf type is offered for thin-wall materials. Polished carbide tips assure smooth, burr - free cuts. Blades are available in 8 to 20-in. diameters for hand-operated and power feed machines. Made by **Deluxe Service Tool Corp.**, 1108 Grand Ave., North Bergen, N. J.

▲ For more details circle NED-604 D8 on enclosed inquiry slip ▲

Rugged New Vacuum Gauge *With Six Ranges Covering Pressures from 1000 mm. to 0.1 micron*


NRC Model 520

The new NRC Model 520 Alphatron (R) Ionization Vacuum Gauge is equally ideal for the laboratory and production floor. It is both precisely accurate and nearly immune to abuse. Ruggedized new circuitry eliminates troublesome components, minimizes contamination effects, and provides highly stable and linear amplification. A direct reading, total pressure gauge with almost instantaneous response, the Model 520 is accurate to ± 2% and linear over the entire range. Drift is less than 0.5% despite wide line voltage variations. It is especially useful with a recorder or controller and makes an efficient leak detector. Write today for Bulletin G-20

NRC Equipment Corporation
Subsidiary of National Research Corporation
Dept. 29-R Charlemont Street Newton 61, Mass.

▲ For more details circle NED-605 D8 on enclosed inquiry slip ▲

Series H-Capacities from 2000 to 50,000 Pounds

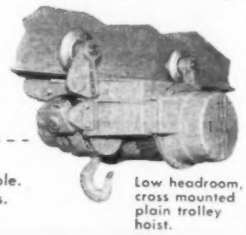
EUCLID HOISTS *for Dependable Service*

These hoists are highly efficient and strictly modern in every detail with oversize anti-friction bearings and heat treated steel parts in combination with a welded frame.

The planetary gearing and mechanical load brake are mounted in oil tight housings. The hoist gearing is assembled in the hoist drum.

This design produces an unusually compact, rugged and accessible hoist readily adapted to various installations and types of control.

Write for Literature

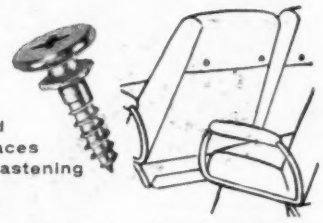

Low headroom, cross mounted plain trolley hoist.

Various other standard and special heavy duty hoists available. Write regarding your requirements.

THE EUCLID CRANE & HOIST COMPANY
1362 CHARDON ROAD • CLEVELAND 17, OHIO

▲ For more details circle NED-606 D8 on enclosed inquiry slip ▲

Count on *Continental* for **special fasteners** designed for extra savings



SPECIAL HOLTITE® PHILLIPS button-head screw replaces two-piece fastening

For a bus builder, this Continental-designed fastener serves as a towel-holding button, — replaces separate wood screw and metal button. Savings in parts cost — 10%. Faster, easier driving saves still more in assembly time and fastener waste.

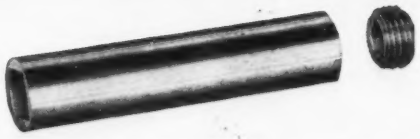
Continental Assembly Specialists' advice is unbiased, since standard Holtite Fasteners include all types. If a "special" is the best answer, you can rely on Continental design experience for extra savings.

What's your fastening problem? Write Dept. ND for full details.

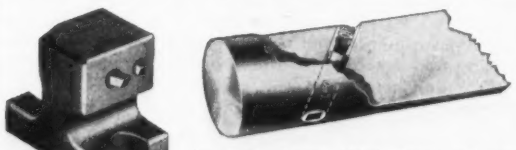
CONTINENTAL
SCREW COMPANY, NEW BEDFORD, MASS.
HOLTITE FASTENERS
HOLTITE PHILLIPS AND SLOTTED HEAD
WOOD • MACHINE • TAPPING • THREAD CUTTING • SEMS • NYLOK
HY-PRO PHILLIPS INSERT BITS AND HOLDERS

▲ For more details circle NED-607 D8 on enclosed inquiry slip ▲

How SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!



One of the most difficult problems in toolmaking can be solved easily and quickly with Sturdy Square Holed Sleeves. The perfection of broached square holes can be had in boring bars, milling cutters and many other applications at a small fraction of the cost of imperfect hand-made square holes. The Sturdy Square Holed Sleeve consists of a round sleeve with a perfectly square hole broached through the center. This hole is tapped at one end to receive a back-up screw which is furnished with the Sleeve. The Sleeve can be sweated or pressed into a drilled and reamed hole to make a perfectly square accurate hole in a very few minutes.



The Sturdy Square Holed Sleeve will save you many hours and many dollars in the making of boring bars, tool holders and other tools requiring square holes.

SLEEVES MADE IN FOLLOWING SIZES: 3/16, ¼, 5/16, ⅜, 7/16, ½, ⅝, ¾, 1"

Write for Literature

STURDY BROACHING SERVICE, INC.
23514 TELEGRAPH RD., DETROIT 41, MICH.

▲ For more details circle NED-608 D8 on enclosed inquiry slip ▲

Is Your Research Hampered by Outdated Vacuum Equipment?

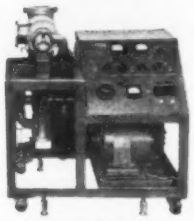
Developments in KINNEY High Vacuum Equipment are extensive and dramatic. They must be to keep abreast of today's accelerated research. For your laboratory and pilot plant, look to —

KINNEY High Vacuum Pump

Kinney®

HIGH VACUUM

KINNEY High Vacuum Pumps provide you with the most comprehensive selection in the world . . . Single-Stage and Two-Stage Mechanical Pumps and the famous KINNEY Two and Four-Stage Mechanical Booster Pumps.



PW-400 Packaged Pumping System

KINNEY Packaged Pumping Systems, consisting of Cold Trap, high speed Fractionating Diffusion Pump, two-stage gas-ballasted mechanical Vacuum Pump and complete instrumentation forms an attractive highly versatile laboratory tool. Unique manifold valve arrangement, whereby the intake fitting may be rotated through 90°, quickly converts unit into a highly efficient Vacuum Evaporator unit.

Write for Bulletins V-54 and 804.

KINNEY MFG. DIVISION
THE NEW YORK AIR BRAKE COMPANY
3612D WASHINGTON STREET • BOSTON 30 • MASS.

For more details circle NED-609 D8 on enclosed inquiry slip

RUBBER

developed and shaped to fit your specifications

MOLDED RUBBER
When you need small molded rubber parts—see Faultless. Complete facilities for mass production of bulb goods, stopples, other quality molded parts.

SPONGE RUBBER
Your best source for sponge rubber. Available in a wide choice of thicknesses and densities.

COLOR SPECIALISTS
Color is increasingly important in industrial manufacturing. As color specialists we can match almost any shade desired.

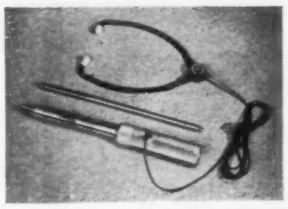
LABORATORY FACILITIES
Let us compound your rubber parts to meet your requirements. Complete laboratory facilities, expert chemists.

For Full Details Write Dept. I. The Faultless Rubber Company, Ashland, Ohio

FAULTLESS

For more details circle NED-610 D8 on enclosed inquiry slip

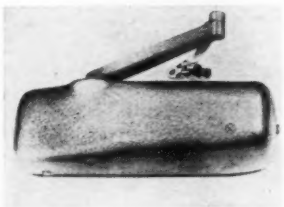
INDUSTRIAL STETHOSCOPE
checks for noise and vibration



Accurate diagnosis of noise and vibration in industrial machinery and processes is possible with this electronic stethoscope. The Venco Detectoscope picks up the slightest vibrations and amplifies them electronically. This lightweight, aluminum, transistorized tool is battery operated. It can be used for checking the operation of motors, engines, bearings, and moving components, as well as for detecting flow of liquids in pipelines or valves. It will also locate squeaks, leaks, and faulty operation. Made by **Valley Engineering Corp.**, Dept. NED, 15th & Elm Street, Easton, Pa.

For more details circle NED-612 D8 on enclosed inquiry slip

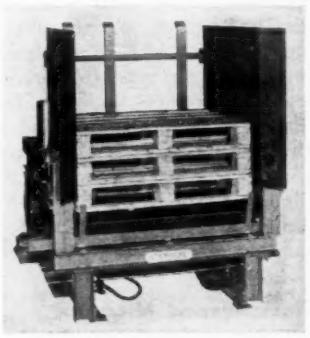
AUTOMATIC DOOR OPERATOR
mat switch or electric eye actuated



Complete automatic door operation is afforded by using this ECA operator and a mat switch or photoelectric control. Mechanism is housed in compact case which is readily attached to top of door. Whenever a person steps on the mat or breaks the beam of the electric eye, the door opens away from person, stays open until the passage is cleared, and then closes. Pushbutton or foot switch control can be used also. Door can be opened manually in an emergency. Made by **Electronics Corp. of America**, 1 Memorial Dr., Cambridge 42, Mass.

For more details circle NED-613 D8 on enclosed inquiry slip

PALLET DISPENSER
releases them one at a time



Pallets are released automatically one at a time onto a conveyor or truck by this Pallet Dispenser. It is designed for specific sizes of pallets, and it will handle stacks ranging up to 14 high. Dispensers can be designed to discharge in any of three directions. Also available is a Pallet Stacker to receive and stack pallets from a conveyor or production line at speeds up to two pallets per minute. Made by **Standard Conveyor Co.**, Dept. NED, 315 N.W. Second St., North St. Paul 9, Minn.

For more details circle NED-614 D8 on enclosed inquiry slip

Less wear on runways, longer life for chain with Jeffrey Barloop Chain

This chain presents reduced bearing pressures to surfaces on which it slides, so runways last longer. The chain also wears longer because the open strap construction makes it self-cleaning. No trapping of materials to accelerate pin wear.

Jeffrey barloop chain is interchangeable with flat-and-round chain. Installation is easy, since it readily can be taken apart and put together at any point. Less downtime for upkeep, and maintenance costs are low.

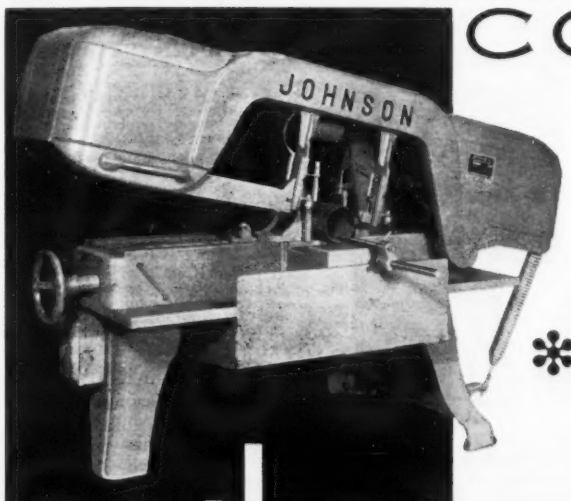
Ask your Jeffrey distributor about Jeffrey barloop chain for general elevator and conveyor service.

JEFFREY

THE JEFFREY MANUFACTURING COMPANY
COLUMBUS 16, OHIO

For more details circle NED-615 D8 on enclosed inquiry slip

COMPARE



model J HEAVY DUTY METAL CUTTING BAND SAW

Capacity—10" rounds, 18" flats • Motor—¾ hp (Any voltage available) • Wheel Diameter—16" • Floor Space—66" x 31" • Bed—11 wide, 44" long, 6" deep, 24" high • Overall Height (closed)—39" • Weight—Approx. 750 lbs. • Speeds—36, 90, 130, 190 feet per minute.

and you'll get a BIG NEW Johnson

COMPARE the handsome, husky Jonhson Model J with any metal cutting saw and here's what you'll find:

- *Johnson leads the way in dependable, well-engineered, high performance band saws.*
- *A Johnson saw will cut anything in your stock pile, and do it faster.*
- *Johnson saws contain more exclusive construction and performance features that save time and money.*
- *Johnson saws are the finest metal cutting machines available anywhere—and, at the lowest price!*

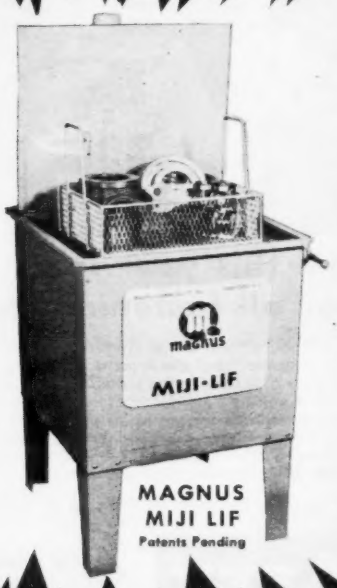
COMPARE . . . and see for yourself how easily you can save time, labor and production dollars with a Johnson saw. Complete information, prices—are yours for the asking.

Johnson MANUFACTURING CORPORATION
Main Plant: Barnes & Taylor Sts., Albion, Michigan

Eastern Distributor	Midwestern Distributor	Western Distributor
R. J. R. KELLY CO.	W. Q. LUNDMARK	HASTINGS DISTRIBUTORS
Hale Bldg., 51 Main St.	75 N. Broadway	1605 Solano Avenue
East Orange, N. J.	Des Plaines, Ill.	Berkeley, Calif.

For more details circle NED-611 D8 on enclosed inquiry slip

ANNOUNCING



NEW, LOW-COST PARTS CLEANING MACHINE FITS ANY SHOP BUDGET

- Cleans 75 lbs. of parts at one time, faster
- Thorough cleaning by mechanical agitation
- Air-powered—one lever operation
- Low cost—less than $300
- Uses cold or heated cleaning solutions
- Fits 2' x 2' floor space or on bench
- Agitating platform raises out of solution for loading, unloading and inspection of parts

INTERESTED? Write for Bulletin 708-ML
Magnus, 13 South Ave., Garwood, N. J.

EQUIPMENT DIVISION

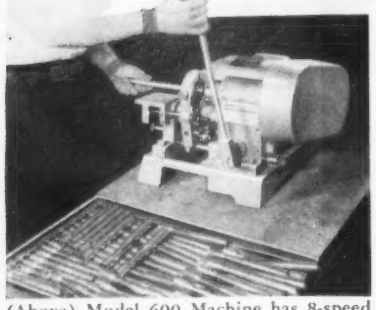
magnus CHEMICAL COMPANY INC.

magnus a world-wide organization specializing in cleaning and protection of all surfaces.

For more details circle NED-616 D8 on enclosed inquiry slip

CUTS DEBURRING and CHAMFERING COSTS...

PINES TUBE AND ROD END-FINISHING MACHINE



- Fast, Easy to Operate—Clamps, Feeds, and Gauges Depth of Cut in Single Stroke.
- Interchangeable Tool Bits, Holders, Chuck Inserts.
- Combines Inside-Outside Deburring and Facing in Single Operation.
- Compact, Portable—Takes up Small Space.
- Other Models Available for Work up to 5" Diameter.
- Automatic Air-Operated Units and Specials to Suit Higher Production Needs.

(Above) Model 600 Machine has 8-speed step sheaves (760 to 3920 RPM), pivoting stock stop. Clamps and feeds work to rotating cutters. Capacity up to 2" O.D. Average production: 600-800 tube ends per hour.

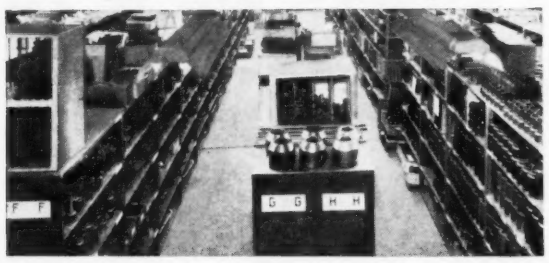
WRITE FOR COMPLETE DATA— New Catalog illustrates cost-cutting features, gives production data and complete specifications.

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery 641 WALNUT • AURORA, ILLINOIS

PRODUCTION BENDING • DEBURRING • CHAMFERING MACHINERY

▲ For more details circle NED-617 D8 on enclosed inquiry slip ▲

the safe way to reduce your tool inventory



make this your stock room for all fastening tools

There are more than 5,000 stock types and sizes of nut running tools in the Apex stockrooms . . . and almost as many types and sizes of screwdriving tools. Apex—the authority on fastening—can supply the tools you need, when you need them.

Want to see what's in "your fastening tool stockrooms"? Write, on your company letterhead please, for Catalog 29-R—Nut Running Tools; Catalog 21—Screwdriving Tools; or Catalog 25—Magnetic Fastening Tools.

1933 • A Quarter Century of Service to Industry • 1958

Ask **APEX** *for the answer to your fastening problem!*

THE APEX MACHINE & TOOL COMPANY
1046 S. Patterson Blvd. • Dayton 2, Ohio

▲ For more details circle NED-618 D8 on enclosed inquiry slip ▲

use **AVERY** PRESSURE-SENSITIVE **LABELS** for hundreds of industrial applications

In every department...from receiving to shipping...from receptionist to top management...there are many spots where Avery labels are saving industry thousands of dollars every year. Self-adhesive, they simplify and speed work wherever there's a need to *identify or inform, to warn, mask, inspect, merchandise or price.* You can save *time* and *money* with Avery labels.

With Avery electric dispensers labeling is as much as 5 times faster than with ordinary method!

Write today for complete information.

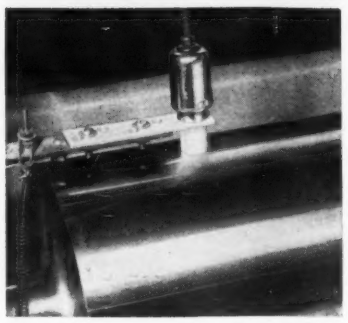
AVERY ADHESIVE LABEL CORP., Custom Div. 102D
117 Liberty St., New York 6 • 608 S. Dearborn St., Chicago 5 • 1616 S. California Ave., Monrovia, Calif. • In Canada, 48 Haas Road, Toronto 15, Ont. • Offices in Other Principal Cities

☐ More information, please...and free samples.
☐ Please have the Avery man call.

NAME
COMPANY
ADDRESS
CITY ZONE STATE
OUR BUSINESS IS:

▲ For more details circle NED-619 D8 on enclosed inquiry slip ▲

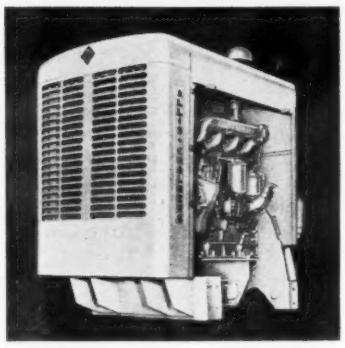
THERMOCOUPLE measures roll surface temperature



Accurate measurement and close control of the surface temperature of rotating rolls, shafts, and bearings is possible with this compact thermocouple. It features fast response, resistance to wear, and no heat loss due to windage. Temperature reading is unaffected by changes in roll velocity. Sensing element is a brass plug which is flush-mounted in a spring-loaded Teflon plunger. Wear resistant Teflon has natural lubricity which prevents build-up of friction heat and damage to roll. Thermocouple is offered with bracket and head. Copper-constantan, iron-constantan, or chromel-alumel thermocouple calibrations are available. Made by **Conax Corp.**, 2326 Walden Ave., Buffalo 25, N. Y.

▲ For more details circle NED-620 D8 on enclosed inquiry slip ▲

DIESEL POWER UNITS two sizes are rated 88 and 131 hp



Original equipment, generator sets, pumps, sawmills, and crusher plants are among applications for two diesel power units that provide a steady power output at working speeds from 1000 to 1800 rpm. Both the 88-hp, four-cylinder Model D-344 and 131-hp, six-cylinder Model D-516 have a follow-through combination system with low peak pressures, full pressure lubrication, and thermostatically controlled cooling system. A 24-v electric starter and generator, single plunger type fuel injection pump, pintle type injection nozzles, and two large-capacity fuel filters that protect fuel pump and nozzles from damaging dirt and water are also incorporated. Both closed and open type models are offered. Made by **Allis-Chalmers Mfg. Co.**, Engine-Material Handling Div., 918 S. 70th St., Milwaukee 1, Wis.

▲ For more details circle NED-621 D8 on enclosed inquiry slip ▲

Glass Bonded Mica

Electronic Mechanics, Inc.—Properties, specifications, and other information on Mykroy glass-bonded mica are given in 6-page Bulletin 101. Various types of high frequency insulating materials for use in electrical and electronic devices are described.

▲ For more details circle NED-622 D8 on enclosed inquiry slip ▲

Inspection Problems?

FREE FLAW LOCATION MANUAL shows what dy✓chek can do for YOU!

Manual thoroughly covers every aspect of flaw location with dye penetrants, from pre-cleaning to interpreting results.

FOUR SIMPLE STEPS
1. Clean surface.
2. Apply Dy-Chek Dye Penetrant.
3. Remove excess Dye Penetrant with Dy-Chek Dye Remover.
4. Apply Dy-Chek Developer. Flaws are revealed.

TURCO PRODUCTS, INC.
Chemical Processing Compounds
6135 So. Central Ave., Los Angeles 1, Calif.
Factories: Newark, Chicago, Houston, Los Angeles, London, Rotterdam, Sydney, Mexico City, Naha (Okinawa)
Manufactured in Canada by B. W. Deane & Co., Montreal
Offices in all Principal Cities

▲ For more details circle NED-623 D8 on enclosed inquiry slip ▲

This **FREE** bulletin offers complete information on

NEW BAG-TYPE FILTERS with completely disposable filtering elements

The Nugent Bag-Type Filter, 1576 series, can mean substantial savings in maintenance costs for any filter user. These filters feature inexpensive, completely disposable filtering elements. This eliminates the messy, time consuming job of removing, cleaning and replacing filter bags. For complete information on these time and money savers, write for your copy of Bulletin 7E. No obligation, of course.

ESTABLISHED 1897 WM. W. NUGENT & CO., INC.
3402 CLEVELAND STREET • SKOKIE, ILLINOIS

REPRESENTATIVES IN PRINCIPAL CITIES

OIL FILTERS • STRAINERS • TELESCOPIC OILERS
OILING AND FILTERING SYSTEMS • OILING DEVICES
SIGHT FEED VALVES • FLOW INDICATORS

▲ For more details circle NED-624 D8 on enclosed inquiry slip ▲

Here's the ROYAL way to help build a successful personal hygiene program!

Management at the Hartford, Conn. plant of Royal McBee have been singularly successful in formulating a personal hygiene program that is paying off in better health, employee appreciation and numerous savings.

After extensive research into the problem, Royal management selected SBS-60 Cream Deodorant Soap and Dispensers to spearhead their program because of its multiple advantages: (a) effective cleansing action that combines exceptional detergency with unusual mildness. (b) a cream consistency that makes it almost impossible to waste in either washrooms or showers. (c) provides a drastic reduction in housekeeping and maintenance work. (d) affords a lanolized, antiseptic cream-type soap whose deodorant action is appreciated by both men and women.

If your responsibility is to save money and increase the efficiency of personal hygiene in your plant, we offer the practical help of our service department. Without obligation, these experienced technicians can make a simple soap recommendation or develop a complete personal hygiene program for you.

Write Dept. 58-D6 FREE: Write for descriptive information on SBS line of industrial hygiene products

sugar beet products co.
SBS WATERLESS WASHSTATION® "Brings the Washroom to the Worker" ® T. M.

MAIN PLANT: 302 Waller St., Saginaw, Michigan Los Angeles, California • Newark, New Jersey
CANADIAN SUBSIDIARY: Chemical By-Products, Ltd., 33 Racine Road, Rexdale, Ontario, Canada

▲ For more details circle NED-625 D8 on enclosed inquiry slip ▲

New Skinner Valves offer big capacity—high pressure

Here's another new line of Skinner valves designed to answer your control "puzzles." Called the R Series, this new line is a two-way, pilot-operated piston valve with ¼" orifice and ¼" NPT. It is available in standard or Explosionproof construction, normally open and normally closed, and operates on a pressure differential of 5 to 200 psi. A normally closed version for pressures to 1000 psi will soon be available.

This new R Series uses the famous V5 Operator and will control air, water, oil and semi-corrosive media. Options include manual override, choice of coils for common AC and DC voltages, and choice of electrical connections.

The valve weighs only 1¼ lbs., stands 3¼" high (2" between ports) and operates in temperatures from —65° to 180°F Ambient and —65° to 150°F Media. It can be mounted directly to the line.

For full details, see the Skinner Representative or Distributor nearest you—he's listed in the Yellow Pages. Or write us at the address below, Dept. 434.

SKINNER ELECTRIC VALVE DIVISION NEW BRITAIN CONNECTICUT 105 EDGEWOOD AVENUE
THE CREST OF QUALITY

▲ For more details circle NED-626 D8 on enclosed inquiry slip ▲

It's a "snap" to insulate plant piping with Snap*On

Save time, save money by standardizing on the one-piece pipe insulation molded of fine glass fibers. Just open the seam—and it snaps on the pipe. Comes in 3 ft. and 6 ft. sections that one man can apply. Lowest applied cost and highest thermal efficiency of any insulation for cold and hot piping up to 350°: Lighter . . . tougher . . . permanent, yet reusable. Available in 62 cities, plain or jacketed in sizes up to 33". See Yellow Pages under "G-B Insulation" for local distributor or WRITE TODAY FOR NEW BROCHURE. Gustin-Bacon Manufacturing Company, 262 W. 10th St., Kansas City, Mo. *Advt.*

▲ For more details circle **NED-627 D8** on enclosed inquiry slip ▲

See It Now... 'TUGIT' Demonstrated Free!

We will prove 'TUGIT' can save for you on lifting and pulling jobs

'Tugit' can handle any load up to 2 tons — at any angle. Choose the load and make us prove it. Call your local Shaw-Box distributor or ask us for the name of the one nearest you. He will send a man to demonstrate how and why 'Tugit' does wonders in lifting and pulling all kinds of loads.

'TUGIT' HAS A MILLION USES in maintenance, construction and production. It's toolbox size, with the most effort-saving gearing ever invented — operates in space too small for other hoists. The 1-ton size weighs only 16½ lbs. — 2-ton 23 lbs. You can take 'Tugit' anywhere and lift or shift a ton with only 40 lbs. of finger pull. Load spotting within 3/32" is a cinch. Safe, too — the powerful brake holds the load under all conditions, and the handle won't kick back. Priced from $66.50. Spark and corrosion resistant models available.

Call your Shaw-Box distributor today and learn all that 'Tugit' can do and save for you. Or write for Bulletin 15015-1-57. No obligation.

Shaw-Box service stations from coast to coast save time, trouble and money for every 'Tugit' user.

58B-1

'Tugit'® HOISTS

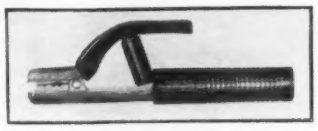
MANNING, MAXWELL & MOORE, INC.
SHAW-BOX CRANE & HOIST DIVISION
400 W. Broadway • Muskegon, Michigan

Builders of "SHAW-BOX" and 'LOAD LIFTER' Cranes, 'BUDGIT' and 'LOAD LIFTER' Hoists and other lifting specialties. Other Divisions produce 'ASHCROFT' Gauges, 'HANCOCK' Valves, 'CONSOLIDATED' Safety and Relief Valves, and 'AMERICAN' and 'AMERICAN-MICROSEN' Industrial Instruments.

In Canada: *Manning, Maxwell & Moore of Canada, Ltd., Galt, Ontario*

▲ For more details circle **NED-628 D8** on enclosed inquiry slip ▲

ELECTRODE HOLDERS have ball-point cable connection



Less than 2 minutes is required to install the improved Twecotong electrode holder on a welding cable. Ball-point type cable connection allows use of larger cable sizes than formerly possible. Holder is installed by stripping 1 in. of cable jacket, inserting the cable strands into the cable socket, and tightening a ball-point screw down on the strands. Use of a 7/32-in. hex drive wrench allows application of high pressure. Models with capacities from 200 to 500 amp for 5/32 to ⅜-in. electrodes are available. Made by **Tweco Products, Inc.**, 1460 S. Mosley St., Wichita 1, Kans.

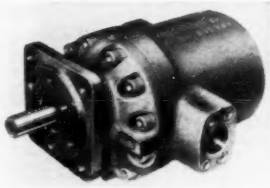
▲ For more details circle **NED-629 D8** on enclosed inquiry slip ▲

TRASH PICK-UP MACHINE vacuum unit has gasoline engine

Paper, fabric shearings, and other types of light trash are picked up by the Litter Bug gasoline engine - powered vacuum sweeper. It operates at an easy walking pace, powered by a 2½-hp, four-cycle Briggs & Stratton or Lauson gasoline engine. Designed for indoor or outdoor use, the machine has a 30 or 40-in. wide pick-up. Distributed by **Mid East Sales Co.**, Dept. H, Box 62, Lockland, Ohio.

▲ For more details circle **NED-630 D8** on enclosed inquiry slip ▲

HYDRAULIC MOTOR/PUMP for 2000-3000-psi industrial use



Flange or foot mounted styles are available in this Model A series of hydraulic motor/pumps. When used as pumps, continuous operating pressures are 2000 psi, with surge pressures to 3000 psi. Rated pumping capacities are 7½ to 12 gpm at 1200 rpm. When used as motors, they provide maximum torque at stall, and have constant torque output with a flat characteristic curve from zero to full design speed. Instantly reversible, they will carry overhung chain or belt loads. Made by **Oliver Tyrone Corp.**, Berry Hydraulics Div., Dept. NED, Oliver Bldg., Pittsburgh 22, Pa.

▲ For more details circle **NED-631 D8** on enclosed inquiry slip ▲

The BECO

SUPER-LIFT LEVER DOLLY

LENGTH	LIFT	SHIPPING WT. (pair)	POUNDS CAPACITY	PRICE (ea.)
4'	8"	36	3000	16.00
5'	8"	62	3750	17.00
6'	8"	76	4500	18.00
7'	8"	88	5250	19.00

Rubber or Metal Wheels
Immediate Delivery
WRITE FOR QUANTITY DISCOUNT SHEET

BECO - Bettendorf, Iowa

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THE *Original* 4 POINT PUNCH **NYE KNOCKOUT PUNCH**

Each punch ½" to 4" has the ORIGINAL 4-POINT cutting feature which takes the toil out of the job. Cuts clean, quick knock-outs speedily, smoothly and burrless. Ball bearing chuck prevents friction. Hand or hydraulic.

Try a NYE and know the best. Order today.

NYE TOOL COMPANY
4126 WEST FULLERTON AVE., CHICAGO 39, ILLINOIS

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To meet your needs for variable speeds

ASK FOR CLEVELAND SPEED VARIATOR BULLETIN K-200

THIS unique variable speed drive gives you infinitely variable, stepless speeds up to 9:1 (from ⅓ to 3 times input speed). Precise adjustment gives instant, smooth speed change by manual, automatic or remote control. Simple construction, compact, quiet running. No belts, no complicated linkage. Thousands in use.

THE CLEVELAND WORM & GEAR COMPANY
Speed Variator Division, 3283 E. 80th St., Cleveland 4, Ohio
Sales Representatives in all major industrial markets

▲ For more details circle **NED-634 D8** on enclosed inquiry slip ▲

DESIGNED FOR SUPERIOR SERVICE

Liquids Vapors Gases

ROTARY JOINTS

Steam pressures to 150 PSI, fluids to 350 PSI — also vacuum service. Speeds to 1,750, temperatures to 425° F. Send for Bull. #14.

SWIVEL JOINTS

Pressures to 3,500 PSI, temperatures to 350° F for industrial applications. Special aircraft types meet or exceed Spec. MIL J-5513. Send for Bull. #15.

CHECK VALVES

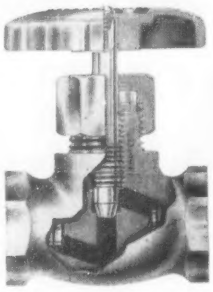
For Aircraft & Industrial applications. Pressures to 3000 PSI. Temperatures from − 300° F. to 750° F. First choice of USN Submarine Service. Mfg. to Mil. Spec. MIL-V-5524-A. Send for Bull. #16.

SEALOL

SEALOL CORP, 264 Post Road, Providence 5, R. I.

▲ For more details circle **NED-635 D8** on enclosed inquiry slip ▲

NEW for applications where space is limited and operating areas are close



- accurately controlled
- perfect shut-off
- high pressure

KEROTEST

N-28 GLOBE TYPE NEEDLE VALVE

Short, compact, precision-machined, this new Type N-28 Valve is designed for services which demand accurate control.

One-piece forged carbon steel body—12/14 chromium heat treated stainless steel stem, Teflon packing—Maximum working pressure 10,000 p.s.i. at 70°F. Available in sizes 1/8", 1/4", 3/8" and 1/2".

Write for the new N-28 Bulletin

KEROTEST MANUFACTURING CO.
2522 LIBERTY AVENUE, PITTSBURGH 22, PA.

For more details circle NED-636 D8 on enclosed inquiry slip

BETTER TOOLS MEAN A BETTER JOB

THE RIGHT TOOLS FOR YOUR JOB — P&R CO

"HANDY ANGLE" SUPREME SAW

A portable hand saw that cuts just about everything—wood, steel pipe, sheet metal, masonite. Fits any 1/4" drill or flexible shaft. None will out-perform!... and its price also defies comparison. $29.75 Complete.

Includes 16 assorted standard blades, tube of lubricant, flat shoe, Allen wrench.

"GRIPS RITE" Angle Head
FOR 1/2" ELECTRIC DRILLS

The right tool for close work—at its best when the going is tough. Special design fits comfortably in your hand. A 2-to-1 gear reduction gives maximum control in tight spots...3 flats on the shank shaft provide non-slip chucking.

PLANETOR
"MAGIC FEED" PORTABLE BITS

Famed "magic feed" bits in 53 sizes, 1" to 4 1/2", tops for tough boring. Replaceable pilots, interchangeable heads, shanks 3 1/2" to 18". One test will convince you. Write for detailed price list.

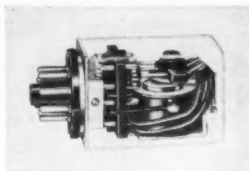
All PARCO TOOLS FULLY GUARANTEED

- For information contact your jobber or write direct to:

Price & Rutzebeck
P. O. Box 30 • Hayward, California

For more details circle NED-637 D8 on enclosed inquiry slip

ENCLOSED RELAY
plastic case withstands impacts



Encased in a dust-tight, transparent plastic enclosure that withstands heavy impact, Series 1200 relay is unaffected by weather and withstands temperatures up to 200° F. Contact rating is 8 amp, 115 v, 60 cycle, noninductive ac. It is available for operation on any voltage from 6 to 230 v ac and 6 to 110 v dc. Made by **Guardian Electric Mfg. Co.**, 1621-I W. Walnut St., Chicago 12, Ill.

For more details circle NED-638 D8 on enclosed inquiry slip

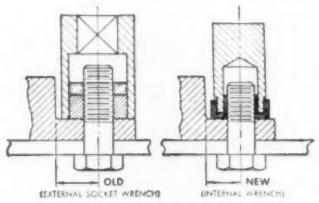
SKID JACK
for moving semilive skids

Compact Rollaway Jack for moving semilive skids is mounted on steel, rubber, or floor-saver roller-bearing wheels. Narrow wheel tread prevents tendency for handle to whip. With both front or full side lift, jack is well suited to close-quarter handling. Used with Rollaway renewable top skid platforms, jack brings mechanical materials handling within financial range of small firms. Made by **Automatic Transportation Co.**, 149 W. 87th St., Chicago 20, Ill.

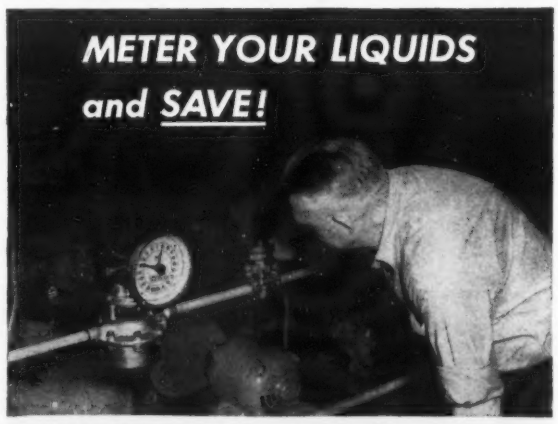
For more details circle NED-639 D8 on enclosed inquiry slip

SELF-LOCKING NUT
resists vibration and high heat

Self-locking action built into the high strength Kaylock nut is brought about by use of high strength materials and a thin-walled nut section, plus an elliptical rather than circular shape at the top of the nut. When a bolt is assembled into a Kaylock nut, the walls are forced into a nearly circular shape, and a controlled pressure is exerted on the bolt threads by the upper portion of the nut. When disassembled, the self-locking section returns to its original elliptical shape, allowing continued re-use. The internal/external nut wrenching features make possible weight and space savings, as clearance around the nut and flange widths is minimized. In one size, the nuts weigh 3 lb per 1000, as compared with 13 lb per 1000 for conventional hex nuts. Made by **Kaynar Mfg. Co.**, Dept. NE-1, 820 E. 16th St., Los Angeles 21, Calif.



For more details circle NED-640 D8 on enclosed inquiry slip



CONTROL COSTS—CONTROL QUALITY

Wherever liquids are stored, mixed or consumed, you will be ahead to measure with Rockwell industrial meters. Then you'll control your costs, control your processes, control your end product quality.

There's a Rockwell meter to measure most any liquid—oils, chemicals, paints, liquors, solvents, etc.—even corrosive fluids. Write for bulletin OG-400. Rockwell Mfg. Co., Pittsburgh 8, Pa.

INDUSTRIAL METERS
another fine product by
ROCKWELL

Rockwell ER Meter with large reset register

For more details circle NED-641 D8 on enclosed inquiry slip

DODGE PILLOW BLOCKS
Timken Bearing Equipped

Super-Quality!

America's super-quality line—with a 34 year record of keeping performance *up* and costs *down!* Five types—to fit practically any service condition. All assembled, adjusted, lubricated and *sealed* at the factory for precision performance—long life—dependability. Write for bulletin of complete technical data.

DODGE MANUFACTURING CORPORATION, 2100 Union, Mishawaka, Ind.

DODGE of Mishawaka, Ind.

For more details circle NED-642 D8 on enclosed inquiry slip

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LATCH BOLTS
CAST IRON HAND KNOBS
ALUMINUM HAND KNOBS
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JIG FEET (3 TYPES)
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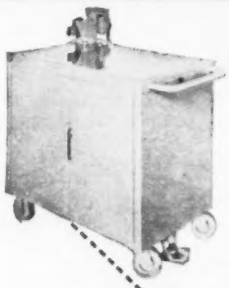
CATALOG INCLUDES TRACING TEMPLATES

Northwestern
127 HOLLIER AVE., DAYTON 3, OHIO

For more details circle NED-643 D8 on enclosed inquiry slip



here today...

Portable workbench can be rolled to work location by one man. Doors can be locked to fully protect all contents. Unit is all-welded 1/8-inch and 3/16-inch steel plate construction... and can support up to 2000-pounds safely. Heavy-duty roller bearing wheels (hard rubber or phenolic resin) are furnished. Foot-operated locking mechanism securely positions workbench.

Standard "Roll-A-Bench" weighs 325-pounds and is 34-inches high, 41-inches long and 26-inches wide. Other sizes are available to meet individual requirements. *Write* today for literature.

there tomorrow!

Overbeke-Kain
MOBILE WORKBENCH

Several territories available for qualified manufacturer's representatives or distributors. Write today for information.

THE OVERBEKE-KAIN COMPANY
20979 Aurora Road • Bedford, Ohio

Overbeke-Kain

For more details circle NED-644 D8 on enclosed inquiry slip

CHICAGO TRAMRAIL

JIB CRANES

Faster Handling

AT LESS COST

360° SWING

SELF-SUPPORTING

CAPACITIES FROM 1½ TO 5 TONS

A complete line of Jib Cranes including Wall Bracket Type with 180° rotation, Self-Standing Column Type with 220° rotation; also heavy duty and light duty Self-Supporting Type with 360° rotation. Mast type with top and bottom supports. Top bearing is bronze and a tapered precision bearing is at bottom.

CHICAGO TRAMRAIL CORPORATION
1310 S. Kostner Avenue • Chicago 23, Illinois

For more details circle NED-645 D8 on enclosed inquiry slip

with a

DI-ACRO BRAKE

The Di-Acro Brake is a six-in-one precision metal working machine simply tooled for a variety of jobs. Ten models in 6", 12", 18" and 24" widths handle up to 16 gauge mild sheet steel.

Consult the yellow pages of your phone book for the name of your nearest Di-Acro distributor or write for 16 page "Handy Guide" to Di-Acro Brakes.

di-acro PRECISION METALWORKING MACHINES

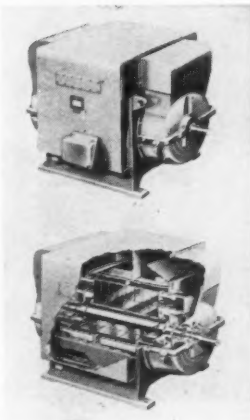
pronounced die-ack-ro-

See Di-Acro machines at Booths 813-821 ASTE Show May 1-8, Convention Center, Philadelphia, Pa.

O'NEIL-IRWIN MFG. CO.
354 Eighth Avenue • Lake City, Minnesota

For more details circle NED-646 D8 on enclosed inquiry slip

WEATHERPROOF MOTORS
large units for outdoor use

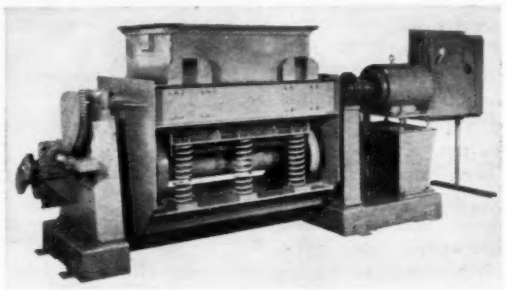


Suited for use out-of-doors under extreme weather conditions, Weather Protected motors are made in ratings from 250 to 1500 hp. They will operate properly under conditions of high winds; driving rain, snow, or sleet; and sandstorms. Ventilation system prevents entrance of wind-borne particles and moisture. Other features include split sleeve bearings, moisture and chemical-resistant insulation, space heaters to prevent condensation during shutdown periods, "Drive-By" oil level sight gages, and inspection ports for oil rings. Optional accessories are a pressure lubrication system, air filters, and temperature protective devices. Made by **Louis Allis Co.**, Dept. P, 427 E. Stewart St., Milwaukee 1, Wis.

For more details circle NED-647 D8 on enclosed inquiry slip

VIBRATING METAL FINISHER
descales, deburrs, grinds, colors all metals, alloys, and plastics

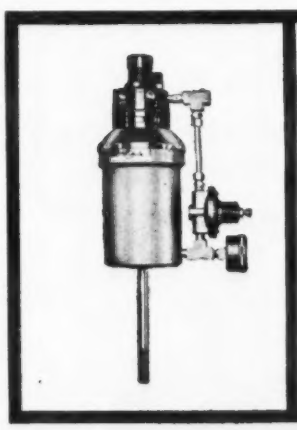
Principle of controlled vibration is employed by the Lorco Vibrator metal finisher. Designed for rapid descaling, deburring, grinding, fine finishing, coloring,



and burnishing of all metals and alloys and many plastics, it can be supplied for either fixed or variable amplitudes and frequencies. The entire workload is in continuous motion and undergoes an effective scrubbing action.

In comparative tests, a burr on a brass part was removed in 15 minutes in the vibrator and in 4½ hours in a large tumbling barrel. To a certain extent, the machine will work in recessed and shielded areas. Almost anything can be handled, from extremely coarse work to very fine finishes. Currently available models range from 10 to 30 hp and from 6.92 to 17.50 cu ft capacity. Smaller models are contemplated. Made by **Lord Chemical Corp.**, Dept. A1, 2068 S. Queen St., York, Pa.

For more details circle NED-648 D8 on enclosed inquiry slip



CONOFLOW CYLINDER ACTUATOR... ...shows you the way to AUTOMATION

Conoflow Series 50 Cylinder Conomotor Actuator affords automatic throttling control for many types of process regulating equipment previously limited to hand control. The Cylinder Conomotor is a powerful pneumatic servomechanism capable of following the exact signal outputs of modern electronic and pneumatic instruments.

It has found wide industrial application for automatic control of numerous types of valves, motor driven speed changers, proportioning pumps, flow regulators, and many electrical systems components such as rheostats, autotransformers and potentiometers.

Investigate the possibility of using the Cylinder Conomotor with your processing equipment. Write for Bulletins B-50-3 and EB-3, today.

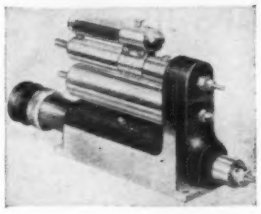
Conoflow Controls FOREMOST IN FINAL CONTROL ELEMENTS

CC710

CONOFLOW CORPORATION
SUBSIDIARY OF WALWORTH COMPANY
2100 ARCH STREET • PHILADELPHIA 3, PA.

For more details circle NED-649 D8 on enclosed inquiry slip

Get Low-Cost Precision Drilling



with the Versatile

LYNMATIC 101

PRECISE . . . Air feed drill . . . adjustable hydraulic feed control . . . accurate, constant speeds from stop to 200 f.p.m. . . . with rapid traverse . . . transparent hydra-control reservoir, open system eliminates captured air problem, permits visual checks . . . sides and bottoms machined square . . . drills to 2" centers with 2" stroke.

VERSATILE . . . Use with any 3- or 4-way valves. With Lynco Automatic Control Box CB-1 and Lynco Cycle Timer automatically drills holes up to ¼" diameter in almost any material.

RUGGED . . . Long-life construction with only four moving parts.

OTHER TOOLING DEVICES

Lynco 34 Automatic Air Impact Tool . . . 9-oz., pencil-type, only 5¾" long, for scaling, etching, riveting or center punching.

Toolmor Air Cylinders . . . standard ball, swivel, or threaded ends. Easily installed.

For complete details write:

BURKLYN

Mfrs. of Automation Tooling & Production Devices

3429 GLENDALE BOULEVARD • LOS ANGELES 39, CALIFORNIA

For more details circle NED-650 D8 on enclosed inquiry slip

Veelos Knocks Out Belt Vibration... Up To 90%!

HERE'S PROOF! With an electronic vibration analyzer, your Manheim Veelos representative can measure the exact vibration in your machines. This test is absolutely free and is offered as conclusive proof that Veelos Adjustable V-Belts are better for your drives.

TEST YOUR BELTS! Test Veelos belts against the V-belts you're now using—convince yourself, in this 15 minute test, that Veelos cuts V-belt vibration up to 90%. Smooth running Veelos saves you money by cutting down bearing wear, work spoilage, etc.

Write for free Vibration Demonstration or Free Veelos Data Book to:

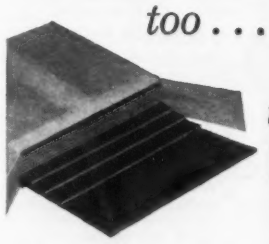
MANHEIM
MANUFACTURING & BELTING CO.
605 Stiegel St., Manheim, Penna.

Veelos is known as Veelink outside U.S.A.

For more details circle NED-651 D8 on enclosed inquiry slip

Hear
the difference

Feel it,
too . . .



with machines on

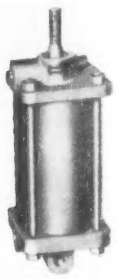
ISOMODE® PADS

It's so simple . . . so effective. Cut the size you need from standard sheet of Isomode Pad. Place under machine feet . . . hear and feel the difference! Long-life, resilient neoprene absorbs vibration . . . helps cut plant noise . . . saves wear on machines and floors alike. Box of ten 18" x 18" Isomode Pads is enough for 80 tons of machinery. Make a test . . . convince yourself. Write for details.

® *T.M. Reg. U.S. Pat. Off.*

MB manufacturing company
A DIVISION OF TEXTRON INC.
1066 State Street, New Haven 11, Conn.

For more details circle NED-652 D8 on enclosed inquiry slip



Three-Position Air Cylinders

Westinghouse Three-Position Cylinders. These are non-cushioned cylinders with three positive positions of stroke—one at either end of piston travel and the third fixed anywhere in between. The stroke can be designed to fit any particular application. They are foot and swivel mounted cylinders with diameters of 2, 3, 4, 5, and 6 inches. Maximum pressure: 150 psi.

Pneumatic control is an economical, popular method of industrial automation. And reliable Westinghouse Three-Position Cylinders are a basic feature in many new air control systems.

Consult your local Westinghouse Air Brake Distributor. He's listed in the classified phone directory under "Cylinders: Air." Ask him or write for Three-Position Cylinder Catalog A3-55.01.

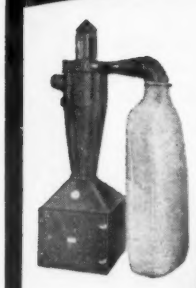
Westinghouse Air Brake COMPANY
Industrial Products Division
WILMERDING PENNSYLVANIA

For more details circle NED-654 D8 on enclosed inquiry slip

how to trap dust *that damages your machines and hurts company morale*

Easy-to-move **TORIT** dust collectors trap dust at its source!

Priced from $190.00

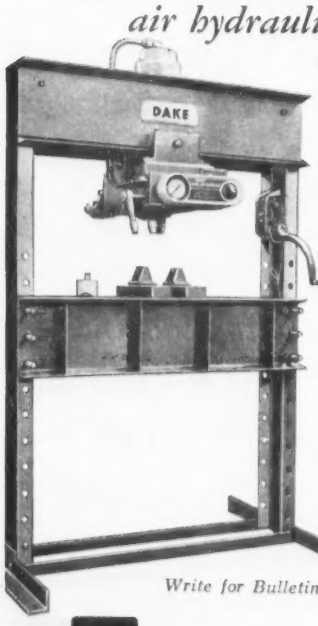


Untrapped dust costs money: "secretly" forces precision machines out of line, limits production. Torit dust collectors are unitized for custom installation—save more money, usually more efficient than central (built-into-building) system. Torit unit operates only when machine or combination of machines it protects are on. Filtered air may be returned to room to save heat. Many models and sizes, all self-contained, easy to move. Write today to . . .

TORIT *manufacturing co.*
Dept. 201 311 Walnut Street, St. Paul 2, Minn.

For more details circle NED-655 D8 on enclosed inquiry slip

A NEW LINE OF DAKE *air hydraulic* PRESSES



FOUR NEW MODELS

25, 50, 75, 150 TONS

. . . tonnagewise and pricewise are designed to find many applications in a wide range of manufacturing fields. Only requirement for operation is the availability of compressed air.

CHECK THESE FEATURES:

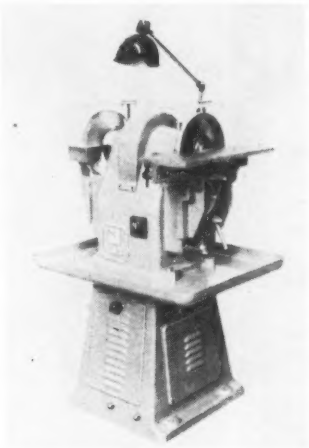
- **Rapid Ram Approach**—automatically changes to power stroke when it contacts the work.
- **Extra Long Stroke**—handles long pressing jobs more easily.
- **Movable Workhead**—self-contained, easy to center over work. Workhead can be purchased separately.
- **Modern Design**—all of the operating controls are at convenient working height.

Write for Bulletin 391

DAKE PRESSES
DAKE CORPORATION
642 Robbins Road, Grand Haven, Mich.

For more details circle NED-656 D8 on enclosed inquiry slip

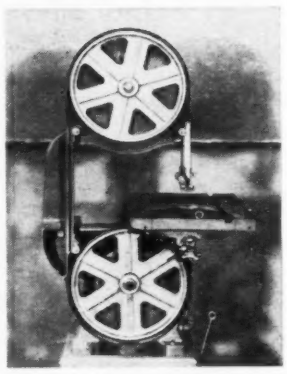
DISC FILING MACHINE
3⅛ to 12-in. discs available



Fast and accurate stock removal on ferrous and nonferrous metal, wood, and plastic pieces is performed by this Jemco disc filing machine. Unit can be equipped with two 3⅛ to 12-in. diameter discs. Carbon steel, high speed steel and carbide discs are available, all of which have ground teeth. Work table accommodates mounting fixtures or sliding tables for special operations. Machine's 1-hp motor turns discs at speeds of 175, 250, 310, 370, and 410 rpm. Changing pulleys affords additional speeds. Made by **Jersey Mfg. Co.**, 444 Livingston St., Elizabeth 1, N. J.

For more details circle NED-657 D8 on enclosed inquiry slip

METAL-WOOD BAND SAW
chatter eliminated in improved model



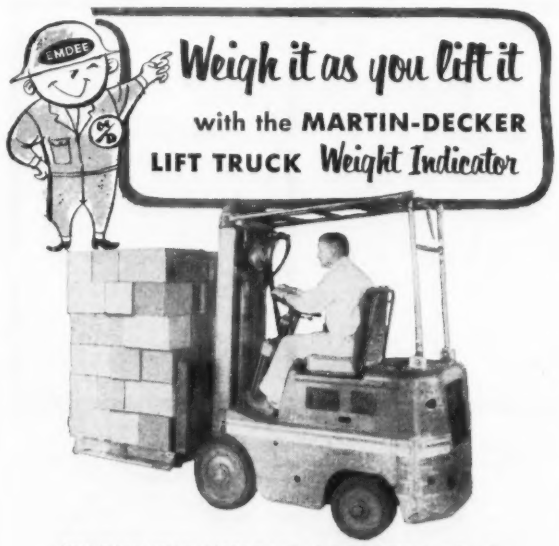
Improved Delta 14-in. wood and metal-cutting band saw has a stronger, heavier drive which eliminates chatter and vibration under difficult operating conditions at any speed. With standard 1725-rpm motor, saw has speed range from 40 to 3000 fpm. Drive shaft has been increased from 0.787 to 1.1814 in. in diameter, and a double, positive-drive, dog-type clutch replaces the former overriding clutch for higher torque transmission. A bull gear, free-wheeling on a double-row ball bearing, provides over-riding feature in direct drive, eliminating need to change V-belts through entire 75:1 reduction range. Gear box alone provides 55:1 reduction or multiplication. Made by **Rockwell Mfg. Co.**, Delta Power Tool Div., 483 N. Lexington Ave., Pittsburgh 8, Pa.

For more details circle NED-658 D8 on enclosed inquiry slip

Carbide Insert Tool Holders

Kennametal Inc.—Complete reference data on Kendex tooling using throw-away carbide inserts is presented in 20-page Catalog B-305. Information is given on 42 styles and 220 different holders. They include negative and positive rake, roller turner, boring, multiple insert turning and grooving, and facing tools.

For more details circle NED-659 D8 on enclosed inquiry slip



KNOW THE WEIGHT OF EVERY LOAD
As you lift it!

Here's the accurate, convenient, safe low-cost way to prevent overloads—totalize truck car loadings—simplify weight inventories—insure floor weight distribution—

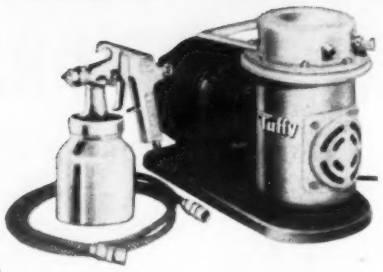
Write for Descriptive Bulletin. S-25

MARTIN-DECKER CORP.
HOME OF THE WEIGHT INDICATOR — LONG BEACH, CALIFORNIA

For more details circle NED-660 D8 on enclosed inquiry slip

DEVILBISS PROFESSIONAL SPRAY OUTFIT

for fast, full-covering, protective coating



DeVilbiss' NCE Tuffy Spray Outfit is lightweight, yet withstands rugged commercial use. Makes painting hard-to-reach areas easy. Plugs into any 115 AC circuit. Gun sprays all common coating materials.

DeVilbiss spray method is four times faster than brushing! Permits heavier paint film for better wear, better hiding. One coat usually does the job of two. Write for free Maintenance Spray Equipment Catalog.

DEVILBISS
THE DEVILBISS COMPANY
Toledo 1, Ohio
Barrie, Ontario • London, England
BRANCH OFFICES IN PRINCIPAL CITIES

For more details circle NED-661 D8 on enclosed inquiry slip

IF YOU BUY OR SPECIFY CONTROLS

ASK FOR CATALOG NO. 858

MERCOID® CONTROLS

FOR INDOOR, OUTDOOR OR HAZARDOUS LOCATIONS

Controls for—

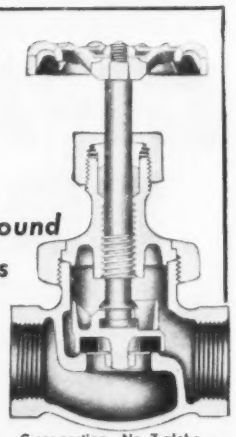
PRESSURE
TWO-STAGE PRESSURE
DIFFERENTIAL PRESSURE
TEMPERATURE
TWO-STAGE TEMPERATURE
MECHANICAL MOVEMENT LEVER ARM AND FLOAT OPERATED
LIQUID LEVEL TRANSFORMER-RELAYS

THE MERCOID CORPORATION
4201 Belmont Ave., Chicago 41, Ill.
New York: 205 E. 42nd St. - Philadelphia: 3137 N. Broad St.

For more details circle NED-662 D8 on enclosed inquiry slip

Easy-to-repair brass valves CRANE

Composition disc—150-pound
Globes • Angles • Checks



Cross section—No. 7 globe—screwed ends

- Interchangeable disc-holder feature cuts down time to minutes.
- Handle 7 services with only 2 types of composition disc—steam, hot water, cold water, gas, air, oil, gasoline.
- Can be repacked under pressure when wide open.
- Sizes: globe, angle—⅛ to 3 in.; lift check, ¼ to 3 in. Screwed or flanged ends.

For complete information, get Circular AD-2222 from Crane Representative or write to address below.

Replacing preassembled disc and holder

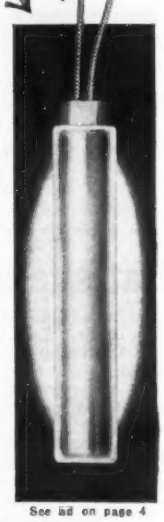
CRANE VALVES & FITTINGS
PIPE • PLUMBING • KITCHENS • HEATING • AIR CONDITIONING
Since 1855—Crane Co., General Offices: Chicago 5, Ill.
Branches and Wholesalers Serving All Areas

For more details circle NED-663 D8 on enclosed inquiry slip

up to 5 times more Heatpower

CHROMALOX REDHEAD

Electric Cartridge Heaters



More heat in the same space—up to 5 times as much as standard cartridges.

Faster heat-up—up to 5 times faster.

Faster cycles—Redheads recover up to 5 times faster.

Last longer—Greater capacity makes "hard" jobs easy. Special construction stands up better under rough usage.

Exclusive construction — Highest quality nickel-chromium resistor wire coiled around special ceramic core, centered in refractory material with highest heat transfer ability. Inconel sheath combines fast heat transfer with resistance to high temperature corrosion. Flexible lead wires of standard manganese-nickel are covered with special high temperature insulation.

85 to 4600 watts . . . 120-240 volts
Diameters range from 3/8" to 3/4"
Lengths from 1 5/16" to 24"

If your job for cartridge heaters is one of the very few requiring even higher wattages, check with your Chromalox Sales-Engineering Representative—the "Man with the Answers" to all your heating problems.

Write for Bulletin 997. 2443 See ad on page 4

CHROMALOX Electric Heat
Edwin L. Wiegand Company
7509 Thomas Boulevard • Pittsburgh 8, Pa.

▲ For more details circle **NED-664 D8** on enclosed inquiry slip ▲

Remove more metal faster with powerful Thor air grinders

All new—engineered for new power, new efficiency, new economy—the industry's only truly modern line of air grinders. Over 40 Thor models to choose from in four motor sizes, with speeds and throttle styles for every application. Ask your Thor air grinder specialist for a demonstration. Thor Power Tool Company, Prudential Plaza, Chicago 1, Illinois.

Thor Power Tool Company • Chicago

Thor PORTABLE POWER TOOLS

Atlanta • Birmingham • Boston
Buffalo • Chicago • Cincinnati
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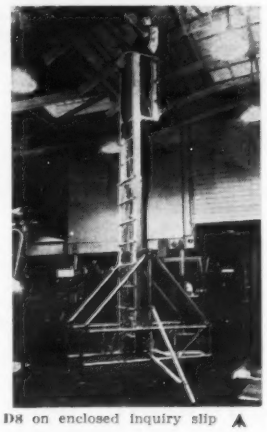
Indianapolis • Kansas City, Mo.
Los Angeles • Milwaukee • Newark
Long Island City, N.Y. • Philadelphia
Pittsburgh • Richmond • St. Louis
San Francisco • Seattle • Toronto,
Canada • Export Division, New York City.

▲ For more details circle **NED-665 D8** on enclosed inquiry slip ▲

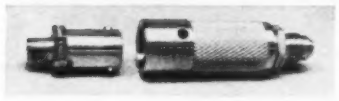
TELESCOPING WORK PLATFORM
reaches 30-ft high maintenance jobs



Rapidly assembled by one man, the lightweight Tallescope aluminum work platform for overhead spot maintenance extends to 30-ft height. Legs adjust to uneven floors or stairways. Structure is only 29 in. wide and can be rolled through doorways or under trusses and pipes when folded down. It separates into three components for storage or transportation. Made by **Up-Right Scaffolds**, 1013 Pardee St., Berkeley 10, Calif.

▲ For more details circle **NED-666 D8** on enclosed inquiry slip ▲

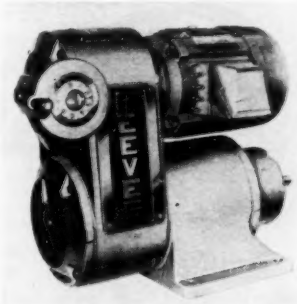
QUICK-DISCONNECT COUPLING
operates with −320° F liquid oxygen



Made of corrosion resistant materials and incorporating Teflon or Kel-f seals, the LOX quick-disconnect coupling will operate freely with either liquid oxygen or liquid nitrogen at −320° F. Coupling is available with or without self-sealing members in each half. It can be connected or disconnected with one hand. Visual aids show when unit is locked. Leakage is nil even under liquid pressures of 110 psi or more. Couplings are used in some military aircraft for rapid, nonleaking disconnection of liquid oxygen supply or vent lines. Made by **Essex Mfg. Co.**, 8213 Gravois Ave., St. Louis 23, Mo.

▲ For more details circle **NED-667 D8** on enclosed inquiry slip ▲

VARIABLE SPEED DRIVE
in 1/4 to 5 hp corrosionproof designs



Corrosionproof design of this Vari-Speed Motodrive enables it to operate in acid, gas, or corrosive dust atmospheres. Speed is infinitely variable over a 10:1 range with a turn of the handwheel. In addition to extensive use of cast iron in the unit's construction, close-grooving lubrication prevents true metal-to-metal contact. Units are powered by 1/4 to 5-hp standard alternating-current motors. Reduction ratios range from 1.17:1 to 195:1. Made by **Reeves Pulley Co.**, 1227 Seventh St., Columbus, Ind.

▲ For more details circle **NED-668 D8** on enclosed inquiry slip ▲

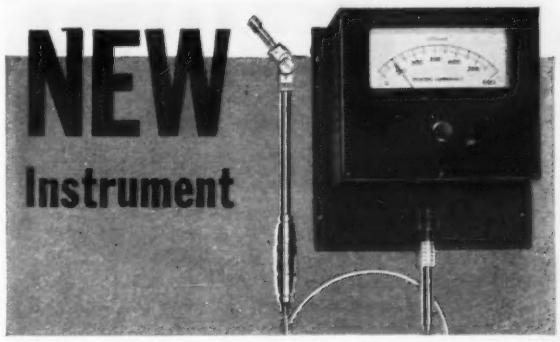
CHECK THE CABLE-CONTROL ADVANTAGES OF Gleason TWO-WAY PAYOUT REELS

The Two-Way Payout feature on Gleason Reels permits cable control to *both sides* of travel center. You need only one-half the usual cable length. This is only one of many Gleason advantages that provide twist-proof cable protection and smooth power control to equipment in motion. Available in many types and sizes, also in watertight, dust-tight, or explosion-proof type construction.

Write for your copy of Gleason "Idea Sparker" Catalog on Reel applications—or for a Gleason-engineered suggestion on your problem.

Gleason Reel Corp
738 N. Plankinton Ave., Milwaukee 3, Wis.
SPRING REEL HEADQUARTERS FOR ALL INDUSTRY

▲ For more details circle **NED-669 D8** on enclosed inquiry slip ▲



Here's an important new addition to the field of surface temperature instrumentation. It's the new Alnor wall-mounted pyrometer with flexible arm.

The Type R-4200 Pyrometer combines the convenience of a portable and the instrument protection of a wall-mounted unit. It enables a manufacturer with a battery of ovens, platens, molds, etc., to locate a surface instrument permanently at each station for production checking of surface temperatures. Quickly and inexpensively attached to instrument board or any wall surface.

Available with flexible arm and choice of ten thermocouples in standard Fahrenheit ranges from 0-400° to 0-2000°. Centrigrade equivalents and special ranges, including below zero temperatures, also available.

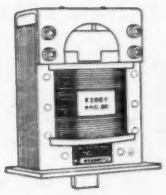
Write for Bulletin 2569. Illinois Testing Laboratories, Inc., Room 529, 420 No. LaSalle St., Chicago 10, Illinois.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▲ For more details circle **NED-670 D8** on enclosed inquiry slip ▲

NAMCO

SOLENOIDS



A full line of standard and custom made Solenoids for AC or DC use. Push or pull types with capacities up to 25 lbs.

FREE BOOKLET AVAILABLE

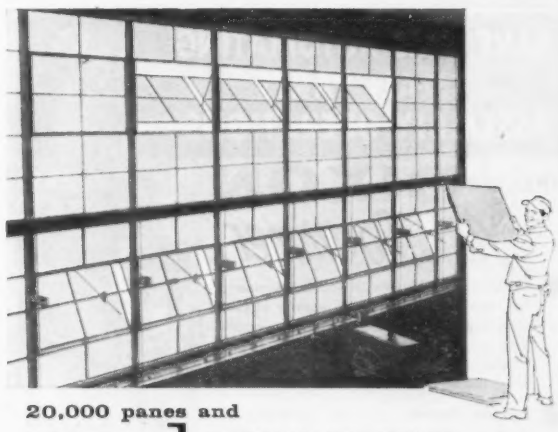
Write for your free copy of booklet EM-52. It provides a wealth of information about the application, design and installation of both custom and standard Namco Solenoids.

Electrical Manufacturing Division

National Acme

The National Acme Company, 182 E. 131st St., Cleveland 8, Ohio

▲ For more details circle **NED-671 D8** on enclosed inquiry slip ▲



20,000 panes and

no damage...

when Firestone glazed with Structoglas

Hurricanes in Cuba, earthquakes in the Philippines, vandalism in the States made glazing replacement a frequent expense for Firestone's far-flung plants. Easy-to-install glazing of shatterproof Structoglas stopped breakage, let in natural light without harmful ultraviolet. Eliminate costly breakage in your plant. Glaze *once and for all* with Structoglas.

5803

Write for Detailed Literature **structoglas®**

STRUCTOGLAS DIVISION
International Molded Plastics, Inc., Dept. NE4, Cleveland 9, Ohio

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WHY

shop around for Arbor Presses when Famco has 32 models to select from, in a great variety of styles. And each Famco Arbor Press has the exclusive front and side gib adjustment for perfect alignment at all times. Whatever you need in Arbor Presses—from ½ to 15 ton capacity—it'll pay you to see Famco first.

famco machine company
3108 SHERIDAN ROAD • KENOSHA 4, WISCONSIN
AIR PRESSES • ARBOR PRESSES • BAND SAWS • DRILL PRESSES • FOOT PRESSES • POWER PRESSES • SQUARING SHEARS • MILLING MACHINES

For more details circle NED-678 D8 on enclosed inquiry slip

NOW! SOLVE THAT LOW DOCK PROBLEM *Economically*

NEW HI-LO AUTOMATIC DOCKBOARD

Model 1208; 8' long by 6' wide. Model 1210; 10' long by 6' wide.

SAVES TIME Backing truck automatically adjusts long, wide ramp surface . . . speeds loading. Does away with labor-wasting placement and storage of loose plates.

SAVES EXPENSE The HI-LO is simply lagged to top of present dock. Can't be lost, stolen, or damaged. Simple counterbalance system. No hydraulics, motors, or controls.

IMPROVES SAFETY No more loose plate hazards. No lifting or straining. The HI-LO is a permanent part of the dock . . . cannot slip out of position.

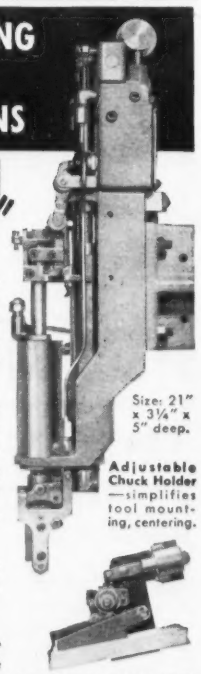
HI-LO Automatic DOCKBOARDS — WRITE FOR COMPLETE LITERATURE

KELLEY COMPANY, INC.
2125-A W. Mill Road
Milwaukee 9, Wisconsin

For more details circle NED-679 D8 on enclosed inquiry slip

SAVE TIME AUTOMATING SMALL PARTS ASSEMBLY OPERATIONS

SPECIFY **DIXON** *"Auto-Positioner"*



- STANDARD HEAD DESIGN—Saves engineering time. Easy to apply to variety of jobs. Operates on ordinary 80# air pressure, 110 volts. Has machined T-slot surface, simple adjustments. Tooling, mounting column, feeders, etc., optional.
- BUILT-IN SENSING—Acts as automatic inspector, assures quality production. Machine stops if part is missing or malformed.
- FAST, VERSATILE—Handles wide range of feedable metal or plastic parts from 1/16" to 3" O.D. at speeds up to 100 cycles per minute. Easy to tool.
- PRECISION-BUILT—Sturdy frame, one-piece super-finished piston and rod, cushioned air cylinder, J.I.C. controls.

DIXON — WRITE FOR FREE DATA SHEETS—New circulars give complete facts, show typical applications.

DIXON AUTOMATIC TOOL, INC.
2302 - 23rd AVENUE • ROCKFORD, ILLINOIS

Equipment for Automatic Parts Handling and Assembly

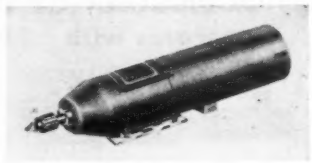
For more details circle NED-680 D8 on enclosed inquiry slip

MASONRY DRILL
readily driven by manual hammering

Fasteners are readily installed in holes drilled in masonry with this R-360 hammer-type masonry drill. It combines a holder with the standard Shure-Set hammer-in tool. Holes are quickly drilled in concrete, cinder block, mortar, brick, or tile. Both studs and nonthreaded fasteners can be installed in the holes. Price is $12.95. Made by **Olin Mathieson Chemical Corp.**, Ramset Fastening System, 12119 Berea Rd., Cleveland 11, Ohio.

For more details circle NED-681 D8 on enclosed inquiry slip

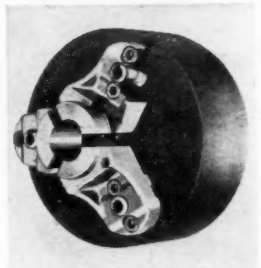
AUTOMATIC DRILL HEAD
has speeds from 245 to 8640 rpm



Semi or fully automatic operations can be performed by this drill head which is adaptable to multiple drilling and reaming. It interlocks with other units or equipment and will drill, ream, tap, counterbore, center, and countersink. Head can also be used for end or hollow milling, tube flaring, tube facing, chamfering, deburring, and boring. Units with 6-in. frame have a 2½-in. stroke; with 8-in. frame, a 3½-in. stroke. Speed range is 245 to 8640 rpm. Drill heads can be powered by ¼ to 7.5-hp, 220/440-v, three-phase, 60-cycle motors. Made by **Bedford Gear & Machine Products, Inc.**, 110 Krick Rd., Bedford, Ohio.

For more details circle NED-682 D8 on enclosed inquiry slip

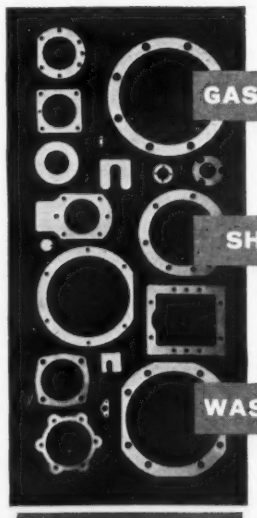
CHUCK JAWS
are individually adjustable



Individually adjustable chuck jaws are made in two sections — one with built-in adjustment of 0.022 in. total movement, the other being a detachable collet pad, either soft or hard. On the chuck, these sections have the rigidity of a solid jaw. Pads can be bored after being positioned at machine, or they can be shaped in the tool room, hardened, then mounted and adjusted to production machine. Jaws are easily transferred from machine to machine and are set permanently when binding screws are tightened. On power chucks, adjustment can be made while gripping work with full air pressure. Made by **Bedford Gear & Machine Products, Inc.**, 110 Krick Rd., Bedford, Ohio.

For more details circle NED-683 D8 on enclosed inquiry slip

No Order TOO SMALL... or TOO BIG!



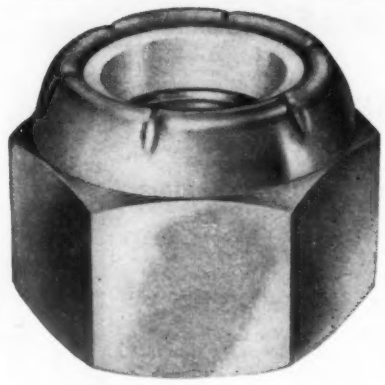
With more than 50 years' accumulation of dies, chances are we can furnish the gaskets, shims, or washers you need *. . . without a die charge.* This can cut your cost and speed delivery—whether you need just a few items or large quantities. Gaskets, shims, washers or special stampings are available in metallic, non-metallic and plastics to meet your production requirements.

NOW...WIL-PAK PLASTIC SHIM STOCK with thickness identified by color and gauge number. Write for Bulletin No. 570.

Write for Catalog and prices

CHICAGO-WILCOX Mfg. Co.
7713 South Avalon Avenue
Chicago 19, Illinois

For more details circle NED-684 D8 on enclosed inquiry slip



What size is a quality fastener?

Here are two ELASTIC STOP® nuts. Each has the familiar red locking collar.* Each is self-locking, vibration proof and reusable. Both stop nuts will maintain an accurate adjustment anywhere on a bolt . . . each prevents liquid seepage along bolt threads and protects against thread corrosion. Finally, each has an unmatched record for quality, both in manufacture and performance.

But . . . one measures 1/10" across the flats; the other, 4". Between these two there are more than 530 different hex nuts in the ESNA line. Look to ESNA for a *standard* self-locking fastener to fit your *special* needs. Write Dept. S2-437.

*The red locking collar is a Registered Trade Mark of ESNA

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, New Jersey

For more details circle NED-685 D8 on enclosed inquiry slip

CUTS COSTS

SMOOTH ROLLING NOISELESS CASTERS
with double ball bearing swivels

. . . your most *economical* buy because they are longer-wearing, offer completely dependable, trouble-free performance, thus making them *lowest in cost to service.* Don't waste your "replacement" dollars on casters of questionable service value. Specify J & J casters, the smoother-rolling, longer-rolling, cost-controlling kind.

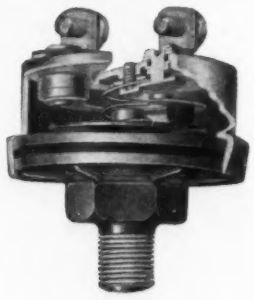
Distributed nationally

Jarvis and Jarvis, Inc.
PALMER, MASSACHUSETTS

In Canada: Jarvis & Jarvis of Canada, 1744 William St., Montreal, Quebec

For more details circle NED-686 D8 on enclosed inquiry slip

RMC PRESSURE SWITCH



DESIGNED FOR HEAVY DUTY USES

The new rugged and dependable RMC #2900 Series Pressure Switch is designed for service on vibrating equipment. The mechanism is sealed dust-proof and watertight. The diaphragm is Buna N impregnated and is calibrated at the factory to close or open a contact at fixed pressure values.

This switch is used to signal low lube or fuel oil pressures; to energize electrical circuits when the diesel starts by tying in to the lube oil line, among other applications.

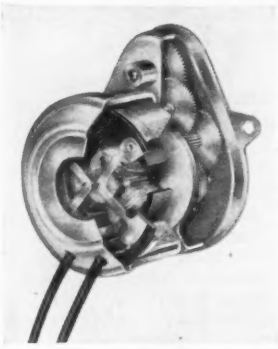
Designed for 6, 12 or 24 volts DC, but available for low voltage AC. Double or single terminal, 1/8" or 1/4" center back connection. Send for sample for inspection and test.

HAS RUGGED COUNTERPART IN NEW RMC SERIES 2908 VACUUM SWITCH

ROCHESTER MANUFACTURING CO.
114 ROCKWOOD STREET • ROCHESTER 10, N.Y.

For more details circle NED-687 D8 on enclosed inquiry slip

NEW high-torque low-current DC motor covers extended range of output speeds



The new Cramer Type 800 direct current motor offers an unusually wide range of output speeds, coupled with low current drain, high torque, high efficiency and excellent speed regulation. These features make it the ideal choice for timing devices, remote control equipment, recorders, signalling equipment, communications gear, displays, coin-operated machines, chart transports, and many other products. *Speeds* from 900 rpm to 2 rpd (geared) and from 960 to 3000 rpm (ungeared). *Regulation* 10% without governor, 3% with governor. *Torque* to 0.6 oz-in ungeared, 30 oz-in geared output. *Current drain* as low as 30 ma. *Voltages* from 3 to 30 v DC, can be varied below or above rated value to secure speed changes. *Gears* precision-hobbed and totally enclosed, with sealed-in lubricant. Write today for new fact-filled Bulletin PB-800. Cramer Controls Corporation, Box 28, Centerbrook, Conn. *Advt.*

▲ For more details circle **NED-688 D8** on enclosed inquiry slip ▲

versatility plus with

S-N 4-1

REVERSING TRANSMISSIONS

Applications unlimited. Two models of this new type of reversing transmission offer the design engineer limitless possibilities in the design or redesign of agricultural, materials handling, machine tool or construction equipment. Combining forward—neutral—reverse—speed reduction in a single compact unit featuring smooth reversing, *under full load* if needed. These units are ideal for use with any equipment requiring power transmission up to 28 HP.

SPECIFICATIONS

MODEL 5108
Reduction ratio—3.75:1 both directions
Power transmission—up to 8 HP
Maximum input torque—320 pound inches
Maximum input speed—2000 RPM
Dimensions—9 1/16" long, 10" wide, 10 3/8" high

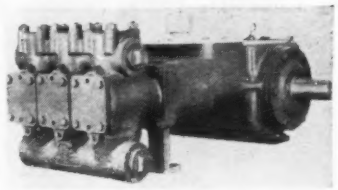
MODEL 5201
Reduction ratio—3.16:1 both directions
Power transmission—up to 28 HP
Maximum input torque—1000 pound inches
Maximum input speed—2000 RPM
Dimensions—11 1/2" long, 12 1/2" wide, 14 3/8" high

For complete recommendations on specific applications write or call our engineering department. Literature gladly sent upon request.

SNOW-NABSTEDT
Transmission Engineers
FOR HALF A CENTURY
"MAKERS OF JOE'S GEARS"
THE SNOW-NABSTEDT GEAR CORP. HAMDEN, CONN.

▲ For more details circle **NED-689 D8** on enclosed inquiry slip ▲

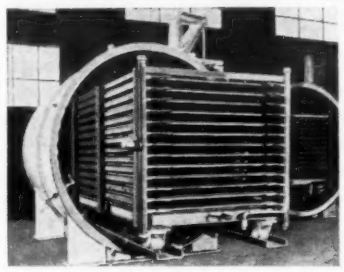
TRIPLEX PUMP produces up to 3000 psi



Offset crankshaft for long bearing life, small discharge valves for minimum of hammer, and large suction valves for positive filling are features of the P-300 triplex power plunger pump. Deep stuffing boxes are incorporated for force-feed lubrication and long packing life. Pump is made in five plunger sizes and is capable of producing up to 3000 psi at speeds up to 500 rpm. Made by **Frank Wheatley Supply Co.**, 125 W. First St., Tulsa, Okla.

▲ For more details circle **NED-690 D8** on enclosed inquiry slip ▲

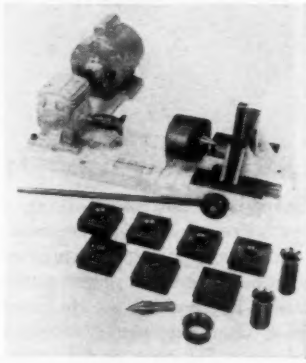
VACUUM CHAMBER DRYER shelf-rack truck loading saves time



Capacity of this vacuum chamber dryer is reportedly increased 25 per cent in multiple drying applications by use of Roll-Away design. Single rack of twelve loaded shelves is rolled into dryer, while another rack is rolled away for unloading and reloading. Thus, dryer is inoperative only for the time required to roll out the load of dried product and roll in the load of moist product. Illustration shows multiple dryer set-up used in a titanium processing plant. Made by **J. P. Devine Mfg. Co.**, 10 49th St., Pittsburgh 1, Pa.

▲ For more details circle **NED-691 D8** on enclosed inquiry slip ▲

TUBE FLARING MACHINE for 1/4 to 2 1/2 in. steel and copper



Steel and copper tubing in 1/4 to 2 1/2-in. diameters and all wall thicknesses used in hydraulic, pneumatic, and fluid installations can be flared on the Power Flare machine. Tests show that flared ends are so smooth that operation at 11,000 psi shows no leaks after extended use. Metal is not work-hardened near the danger point. Machine has gear reducer and standard JIC-motor or compact ratio motor of 1/3 hp for use on 110 v, 60 cycles. Made by **Olsen Mfg. Co.**, Dept. N, 638 S. Rochester Rd., Clawson, Mich.

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Have You Considered the Important Advantages of FILLED TEFLON*?

Teflon can be considerably enhanced by the use of fillers in certain applications. The use of fillers permit it to be more readily tailored to a wide variety of chemical, electrical and mechanical applications. Also, some mechanical properties can be improved. These include:

1) **resistance to deformation under load**
2) **resistance to wear**
3) **thermal conductivity**
4) **compressive strength**
5) **hardness**

This is the reason filled Teflon has become an important item in the "John Crane" Chemlon® line of better Teflon products.

Chemlon is available with such fillers as glass fiber, carbon, graphite, copper and bronze, talc, calcium fluoride and other inorganic materials.

Request Bulletin T-104. Tell us about your requirements.

Crane Packing Company, 6411 Oakton Street, Morton Grove, Ill. (Chicago Suburb). *In Canada. Crane Packing Co., Ltd., Hamilton, Ont.*

**DuPont Trademark*

For guide bushings, vanes and wear rings.

For formed gaskets, valve seats and packings.

For electronic bushings, insulators and tuning slugs, also rod and tubing.

John Crane — MECHANICAL PACKINGS · SHAFT SEALS · TEFLON PRODUCTS · LAPPING MACHINES · THREAD COMPOUNDS

CRANE PACKING COMPANY

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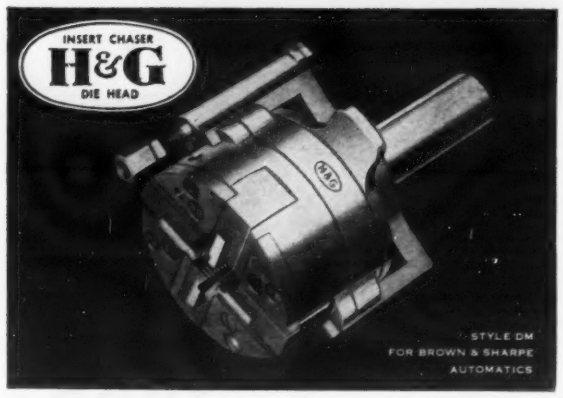

STYLE AND SIZES FOR ALL MACHINES ON WHICH THREADS ARE CUT

On Brown and Sharpe, and other automatics

INSERT CHASERS SAVE UP TO 33%

Insert chasers are like safety razor blades: they cost so little that you can throw them away when dull. Or, for utmost economy, you can resharpen them over and over again. Only a flash grind is required. For less than $50 you get a dozen sets of 3/4—16 insert chasers, each set ground ready to go. You will be amazed at the quantity of threads they will cut, even to Class 3 specifications, with a minimum of downtime.

FREE: "UNIFIED AND AMERICAN SCREW THREAD DIGEST"

THE EASTERN MACHINE SCREW CORP., 28-48 Barclay St., New Haven, Conn.

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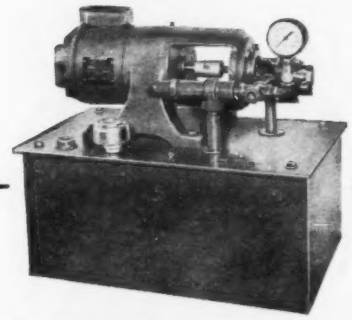

GENESEE Low Pressure Pumping Unit . . . . . .

This is a new heavier duty motor-pump combination. Definitely the answer to high-cost hydraulics. It can be used for (1) accurate control of machine motions and pressures; (2) converting existing air equipment to hydraulic; (3) pressure testing devices or wherever linear or rotary motions are required.

Its initial pumping unit cost is approximately half that of conventional high-pressure systems.

Five new models are available from stock, complete with motor, adjustable relief valve, pressure gage, oil level gage and piped return. They handle from 4 to 9 gal. per min.; HP ranges from 1/3 to 1.

GENESEE MACHINE BUILDERS, INC.
1731 HUDSON AVE., ROCHESTER 21, N. Y.

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Hobbs HOUR METERS for

MEASUREMENT OF USE
PROTECTIVE MAINTENANCE

Operating Time of Production and Service Equipment — AT A GLANCE!

To obtain maximum use of production and service equipment, it is essential to know the hours of operation. This information permits accurate study of utilization; also provides data needed for protective maintenance which improves performance and lengthens service through regular attention at the right time.

Hobbs Hour Meters indicate to the HOUR and MINUTE the time of equipment operation. Not a revolution counter, but a true timing instrument. ALTERNATING CURRENT meters time the operation of any equipment powered by a-c electricity; DIRECT CURRENT meters, the operation of any equipment powered by internal combustion engine or battery.

● Distributors in Principal Cities
WRITE FOR CATALOG 600

JOHN W. Hobbs CORPORATION — A DIVISION OF STEWART WARNER
2055 YALE BLVD. SPRINGFIELD, ILLINOIS

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Campbell *

TAGS TAGS
for inventory
TAGS
for shipping
TAGS TAGS TAGS
for identification
TAGS TAGS

* Campbell Box & Tag Company
Main & New Streets, South Bend 23, Ind.

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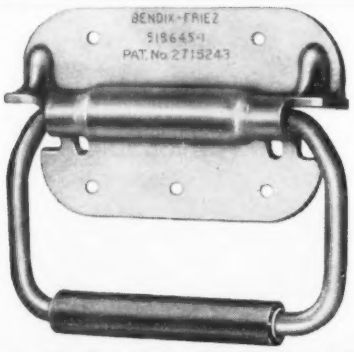


HEAVY-DUTY INDUSTRIAL HANDLE
RUST PROOF! SHOCK PROOF! MEETS
MILITARY SPECIFICATIONS C-4150A, T-945A

Lifts 200 pounds with adequate safety factor. Special sleeve on grip will not crack, chip, become sticky or tacky in temperatures from −65° to +160°F. Patented design eliminates pinching, holds grip against surface when not in use. Attaches easily. Write for free literature and quantity discounts. Bendix-Friez, 1444 Taylor Avenue, Baltimore 4, Maryland.

Friez Instrument Division
Bendix AVIATION CORPORATION

▲ For more details circle NED-698 D8 on enclosed inquiry slip ▲

▲ For more details circle NED-699 D8 on enclosed inquiry slip ▲

PRODUCTION MACHINE
with vertically opposed spindles drills, taps, reams, and chamfers

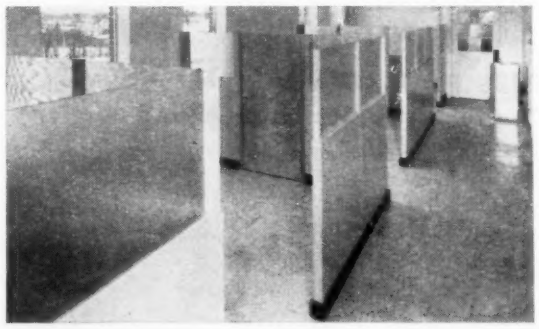
Individual, simultaneous, or in-sequence deburring, chamfering, spot facing, drilling, tapping, or reaming can be done on this vertically opposed production machine. It is furnished with two Dumore Series 24 automatic drill units with 3/8-in. drill capacity and tapping capacity of 1/2 in.-13 in mild steel at 10 speeds from 400 to 7420 rpm. Controlled feed ranges up to 60 ipm, with rapid approach of 600 ipm.

Maximum spindle stroke of each unit is 3 in., and largest opening possible between chucks at rest is 22 in. Both drill units and table are adjustable vertically on solid steel column through gear and pinion to a common rack. Normal spindle alignment tool-to-tool is within 0.003 in., although dead center alignment is possible. Foot bar actuation leaves hands free to handle workpiece. Made by **R. E. Ellis Engineering Co.**, Dept. 1334E, 5001 W. Fullerton Ave., Chicago 39, Ill.

▲ For more details circle NED-700 D8 on enclosed inquiry slip ▲

MOVABLE PARTITIONS
in variety of colors and heights for industrial plant and office use

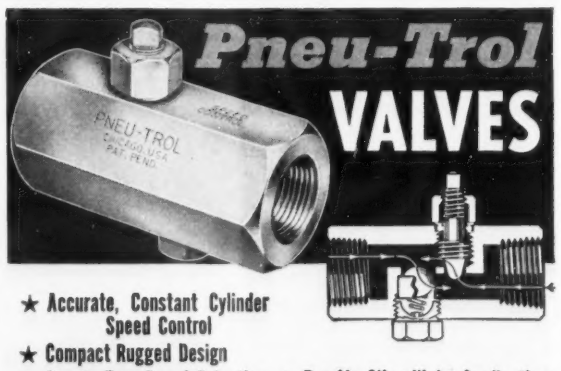
Ainswall movable partitions are available as panel Type B and flush wall Type A for use in offices and industrial plants. Prefabricated and finished in a variety of



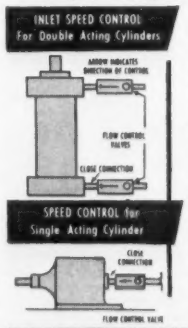
baked enamel colors, these interchangeable, modular units are movable by sections without full disassembly.

Standard partitions are available with hardboard, asbestos board, or glass paneling in 7 ft 2 in., 8 ft 2 in., 9 ft 2 in., and 10 ft 2 in. cornice heights. Also offered is a complete range of sizes for any floor-to-ceiling height. Framing and panels join evenly in an almost imperceptible line. Installation is done under supervision of company's service staff. Made by **Ainsworth-Precision Castings Co.**, Mult-A-Frame Div., 1473 E. Atwater St., Detroit 7, Mich.

▲ For more details circle NED-701 D8 on enclosed inquiry slip ▲



★ Accurate, Constant Cylinder Speed Control
★ Compact Rugged Design
★ Simple, Easy Speed Selection ★ For Air, Oil or Water Applications



Pneu-Trol Speed Control Valves, are widely used in hundreds of control applications because they combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Retro ball floats in most sensitive position to its seat, requiring only a slight differential pressure to fully open or close it.

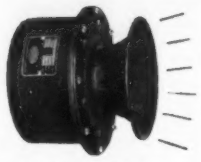
Needle design permits maximum flow capacity in the controlled direction. Metal to metal needle and ball seats insure long trouble-free service. Simple, practical "O" gland structure eliminates troublesome leaking. Valve bodies machined from hex brass or aluminum for 2000 psi working pressures; steel and stainless steel for 5000 psi. Made in 5 female pipe sizes—1/8" to 3/4". ATTRACTIVE PRICES . . . IMMEDIATE DELIVERY.

Write for illustrated circular and prices.

Pneu-Trol DEVICES, INC.
1432 N. KEATING AVENUE • CHICAGO 51, ILL.

▲ For more details circle NED-702 D8 on enclosed inquiry slip ▲

A gentle chime . . .
a BLASTING horn
. . . or a complete audio-visual communication system



AC "CM" HORNS
Cat. No. 128-S

You can depend on Sperti Faraday for the latest in sound and sight communications. For complete information write: Sperti Faraday, Adrian, Michigan. In Canada—write Sperti Faraday of Canada, Ltd., Montreal.

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Fire Alarm Systems
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Sperti Faraday Inc.
Since 1875 Designers and Producers of Visual and Audible Signals
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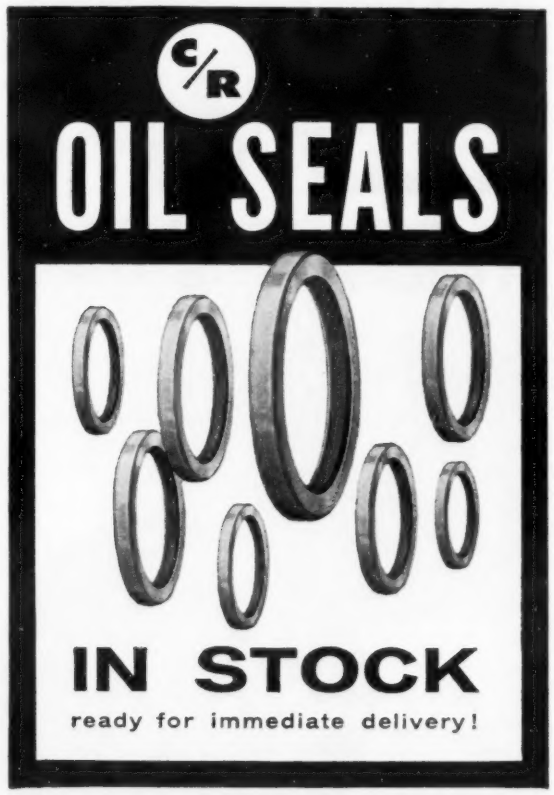

More than 20 types, forming over 7,500 size combinations for shafts from 1/4" to 50" O.D. are available, the majority from stock.

C/R shaft type oil seals fit most seal applications, from simple dust exclusion to highspeed, high-temperature fluid retention under extremely rugged operating conditions where high sealing efficiency must be maintained over long service life.

So . . . check C/R . . . you'll find the seal to solve your problem, probably available for prompt delivery from stock.

This comprehensive catalog of stock C/R Oil Seals is ready for your use. Write for your free copy.

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In Canada: Manufactured and Distributed by Chicago Rawhide Mfg. Co. of Canada, Ltd., Brantford, Ontario
Export Sales: Geon International Corp., Great Neck, New York.

C/R OIL SEAL DIVISION
CHICAGO RAWHIDE

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Looking for HARDNESS TESTING FACTS?

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Send today for catalog containing complete details on all types of Brinell Hardness Testers . . . for laboratory, or production: Dead Weight, Hydraulic, Hand or Motor Operated, Large or Small, Standard and Special.

Since 1914
Steel City Testing Machines Inc
Sales Offices in all metalworking areas.
8819 Lyndon Ave., Detroit 38, Mich.

For more details circle NED-705 D8 on enclosed inquiry slip

OIL?
WATER?
GREASE?
No slipping hazard on
A.W. ALGRIP

ALGRIP'S super-safe footing results from abrasive particles which have been rolled—*not coated*—to a controlled depth as an integral part of steel plate. These thousands of abrasive particles offer slip resistance—unaffected by oil, grease or water. Wear and tear merely expose more abrasive.

Make a test installation in your *worst* slipping area and watch ALGRIP pay for itself as accident and insurance rates go down. ALGRIP fabricates easily and requires no maintenance.

For complete information write on company letterhead to Dept. AL-E28.

A.W. ALGRIP ABRASIVE ROLLED STEEL FLOOR PLATE

ALGRIP—*approved for safety by Underwriters' Laboratories*

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.
Other Products: A.W. SUPER-DIAMOND Rolled Steel Floor Plate—Plates—Sheets—Strip—(Alloy and Special Grades)

For more details circle NED-706 D8 on enclosed inquiry slip

VACUUM PROBLEM?

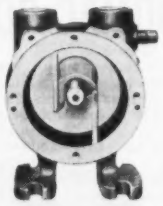
LEIMAN HAS THE ANSWER!

- Over 70 years' experience
- Many types, sizes, models
- Engineering representatives in all industrial centers

4-WING TYPE
Vacuum to 20" Hg
Pressure to 15 psig
Volume to 162 cfm

Get Leiman "Lifetime" Construction

Leiman Vacuum Pumps operate 10, 15 and 20 years without trouble or maintenance because they take up their own wear. Fewer moving parts—made of durable cast iron and steel (no composition)—provide higher vacuum and volume, with smaller pump and motor. Run quietly. Every pump tested before shipment. Consult us on your needs. WRITE for 16-page Catalog and 24-page Application Book.



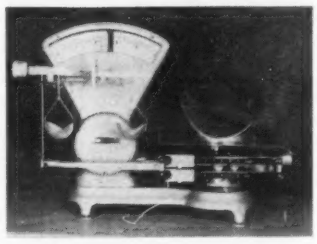
2-WING TYPE
Vacuum to 29.9" Hg
Pressure to 20 psig
Volume to 40.8 cfm

Leiman Bros., Inc.
167 Christie St., Newark 5, N. J.
Established 1887

LEIMAN Rotary Air and VACUUM PUMPS

For more details circle NED-707 D8 on enclosed inquiry slip

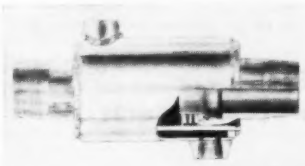
DUAL-PURPOSE SCALE
also functions as ratio counter



Model 241 scale can be used as a ratio counting scale, or as a fan dial direct-weighing scale. It converts to either function quickly by connecting or disconnecting the steelyard rod that is attached to side of scale housing. Scale chart has standard graduations as well as a zero graduation at dead-center for ratio counting work. Wide choice of counting ratios is available. Weighing capacities range up to 40 lb. Made by **Pennsylvania Scale Co.**, Dept. NE-3, Bareville, Pa.

For more details circle NED-708 D8 on enclosed inquiry slip

STEAM-JACKETED JOINT
expansion type handles 500° F



Tar, asphalt, heavy oils, and other products up to 500° F can be handled by this steam-jacketed expansion joint. Ball seats at each end compensate for piping misalignment and serve as a union when installing in the line. The inside bore is honed and chrome plated. Teflon wedge seals, preloaded against the ball with a stainless steel sleeve and spring, are held in place with a snap ring so that the joint cannot blow apart under pressure. The steam chamber has two Weld-o-lets welded to the outside casing. Length of axial travel is controlled by using the proper tube length. Made by **Rotherm Engineering Co.**, 7282 W. Devon Ave., Chicago 31, Ill.

For more details circle NED-709 D8 on enclosed inquiry slip

PLASTIC PULLEY
is chemically inert, nonsparking

Sanitized construction of the Mer-Maid Vinyline plastic pulley makes it applicable to food, chemical, and allied industries. Plastic is lightweight, chemically inert, nontoxic, tasteless, odorless, weather-resistant, nonsparking, and mechanically stable. Pulley can be used in chemical-laden atmospheres, or in direct contact with dry or liquid materials corrosive to standard steel pulleys. It can have flush, hubless end discs and built-in shaft which reduce possibility of bacteria build-up. In photo, pulley at left is the hub type with removable shaft. Built-in shaft unit is shown at right. Straight or crowned face, as well as diamond pattern surface can be supplied. Made by **Mercury Industries, Inc.**, Dept. N1, Hillsdale, N. J.

For more details circle NED-710 D8 on enclosed inquiry slip

Patent No. 2,722,372.
Other Patents Pending.

Quickdraft
THE WORLD'S MOST EFFICIENT POWER EXHAUSTER FOR INDUSTRY

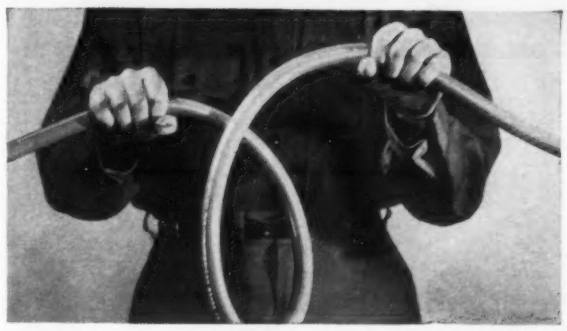
★ STATIC PRESSURE UP TO 20 INCHES
★ NO MOTORS OR FANS IN EXHAUST LINE
★ NEEDS NO STACKS
★ ACID RESISTING FINISHES

IMPORTANT NOTICE
For withstanding corrosive gases, all Quickdraft units are available in standard acid resisting vitreous enamel, No. 316 Stainless Steel, rigid plastics (P.V.C.), and with plastic and Fiberglas coatings.

Quickdraft provides up to 20-inches static pressure for **exhausting** paint spray, abrasives, corrosive gases, noxious fumes and high temperatures . . . **moving** grains, powders, salts and trimmings . . . **recovering** metallic waste from foundry stacks. It reduces maintenance costs . . . eliminates down-time for cleaning and replacing fan blades. In addition, it vents incinerators, heating plants and water heaters . . . providing constant draft for efficient and economical combustion. Write for engineering data on your application, today.

Quickdraft CORPORATION
P. O. Box 87-L
Dueber Hampden Building
Canton 1, Ohio

For more details circle NED-711 D8 on enclosed inquiry slip



Now . . . improved Sealtite E.F.

Sealtite* type E.F.†—the original flexible, liquid-tight conduit, first to meet J.I.C. requirements—is now better than ever. New design has made it stronger, tougher, more durable in service . . . easier to install. Heavier extruded PVC jacket offers greater resistance to abrasion, cutting and tearing . . . greater oil resistance . . . greater holding power for fittings. It is more flexible—permits smaller bending diameters. New convenient markings save time, prevent waste. Length is indicated by arrows at 1-foot intervals. Trade size in inches is shown on cover. In black or gray. For free sample and more information, write: The American Brass Company, American Metal Hose Division, Waterbury 20, Conn.

*Trademark †Pat. Applied For 57189

SEALTITE flexible, liquid-tight conduit
an ANACONDA® product

For more details circle NED-712 D8 on enclosed inquiry slip

Model 96—Our new Welder's Goggle for use over prescription glasses.

PROTECTION *with* COMFORT

DOCKSON'S complete line of goggles offers the finest, scientifically designed protection at minimum cost. Their many outstanding features and unusual comfort have earned them top preference in industry.

Write for complete catalog and name of distributor nearest you.

Model 60—Monelite Chippers Goggle.

Model 76—Cover-Spectacle Welding Goggle.

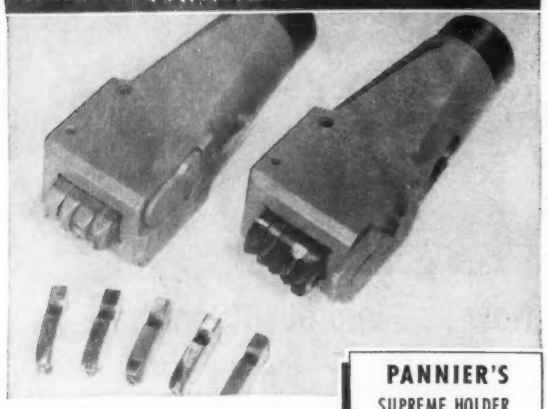
Model 40—Popular Spectacle Goggle.

Model 492—Plastic Frame Welding Goggle.

Dockson CORPORATION
3839 WABASH • DETROIT 8, MICH.

For more details circle NED-713 D8 on enclosed inquiry slip

ANOTHER PANNIER MASTER MARKER!



New Roto-Pin type lock is integral part of *all* Pannier Supreme Holders . . . eliminates loose, bent, dropped, or lost pins . . . flip it open to change type . . . flip it back to securely lock type in clear-marking position.

PANNIER'S SUPREME HOLDER WITH ROTO-PIN LOCK

Safe, fast type changing. Holder in variety of styles. Machined from High-Grade Bar Tool Steel. Hardened anvil maintains type alignment. Striking Head of Tool Steel . . . Replaceable to add long service life to Holder.

Write for complete data.

BIRTHMARKED MATERIALS

MARKING DEVICES — MASTER PANNIER MARKERS

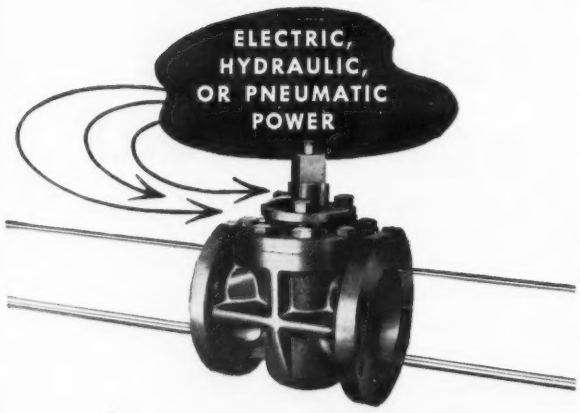
THE PANNIER CORPORATION

301 Pannier Building • FAirfax 1-5185 • Pittsburgh 12, Pa.

Offices: Los Angeles • Chicago • Cleveland • Philadelphia • Birmingham

▲ For more details circle NED-714 D8 on enclosed inquiry slip ▲

ROCKWELL-Nordstrom VALVES CUT POWER OPERATION COSTS



1. **Rockwell-Nordstrom valves cut power operation costs two ways:** Rockwell-Nordstrom valves require simpler, less costly operators because the *lubricated* plug is moved through only 90° for closure.

2. The pressurized lubricant that assures leak-proof, positive shut-off also prevents metal-to-metal friction . . . the chief cause of valve wear. This means longer valve life and greatly reduced maintenance and down time costs.

Rockwell-Nordstrom valves are available in "package" units with a variety of electric, pneumatic or hydraulic actuators to meet your automatic valve needs. Rockwell-Nordstrom, the world's most complete line of lubricated plug valves, cost no more to buy—often less—than ordinary valves. Rockwell Manufacturing Company, Pittsburgh 8, Pa. Canadian Valve Licensee: Peacock Brothers Limited.

For details, just circle No. 715 on the reply card in this magazine.

ROCKWELL-Nordstrom VALVES

it's ROCKWELL MANUFACTURING COMPANY

▲ For more details circle NED-715 D8 on enclosed inquiry slip ▲

INDUCTION HEATING GENERATOR
output adjustable from 5 to 1 kw

Heavy-duty Reevelec Model L7F induction heating generator is designed to operate with wide variety of work coils and loads. Continuous power adjustment is possible from 5 to 1-kw output. Generator can be set up for completely automatic operation. The water-cooled unit features built-in overload protection for all circuits and operates on 240 - v, single - phase lines. Model L8F which operates on three-phase lines is also available. Aluminum-panel cabinet measures 40 x 30 x 28 in. Made by **Reeve Electronics, Inc.**, 621 W. Lake St., Chicago 6, Ill.

▲ For more details circle NED-716 D8 on enclosed inquiry slip ▲

MAGNETIC CONVEYOR
handles small processed parts

Small, lightweight, ferrous parts can be conveyed up a 45-degree incline from nail heading machine, screw machine, or punch press by the Model 850 magnetic parts conveyor. Discharge after elevation is into a hopper, tote box, or other storage or shipping container, or onto another conveyor. Another use is for removal of scrap from a chopper. Conveyor bed is a formed aluminum box channel with two permanently-energized magnets. Belt is 8-in. wide, ribbed, black neoprene coated, 3-ply duck. Nonskid rubber ribs are 5/32 in. high and 1/4 in. wide. Other belts can be supplied for specific needs. Conveyor and motor are mounted on tubular framing with two 1½ x 5-in. wheels. Made by **Rapids-Standard Co.**, Dept. NED, 342 Rapistan Bldg., Grand Rapids 2, Mich.

▲ For more details circle NED-717 D8 on enclosed inquiry slip ▲

Pipe, Tubing & Fittings

Midcontinent Tube Service, Inc.—First issue of a service-brochure to be published every other month is entitled "Inventory." It provides up-to-date listings of hard-to-locate pipe and tubing, as well as valves, flanges, and fittings. This brochure is offered to the growing numbers of industrial users of carbon, alloy, and stainless steel tubular product.

▲ For more details circle NED-718 D8 on enclosed inquiry slip ▲

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3/16" Aluminum and
All Non-Ferrous Metals
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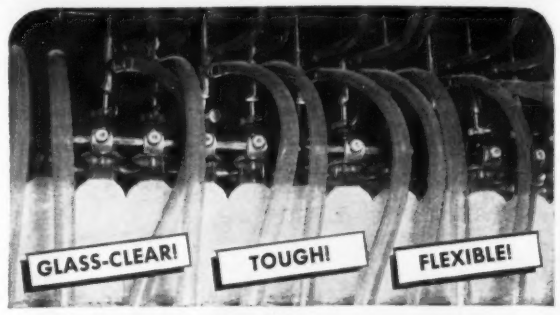
FENWAY Machine Company, Inc.

▲ For more details circle NED-719 D8 on enclosed inquiry slip ▲



TYGON *flexible plastic* TUBING

Tygon Tubings are produced in many formulations to withstand a wide range of service conditions. Some formulations are tasteless, odorless and non-contaminating—can handle high purity solutions such as liquid foods and drugs in complete safety. Others successfully handle corrosive liquids or gases and are resistant to acids, alkalis, oils, water and alcohol. All are physically tough to withstand rough usage.

Tygon Tubings are extremely flexible. They adapt to any layout — can be installed in minutes. Glass-like clarity permits visual inspection of flow. The polished bore facilitates fast, thorough cleaning. Fifty-five sizes from 1/16" to 3" i. d. provide a size for virtually every tubing need.

367-E

Write today for Bulletin T-97 for complete technical data.

Plastics & Synthetics Division
U. S. STONEWARE
AKRON 9, OHIO

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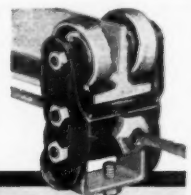
Tipp overhead DRAG LINE conveyor

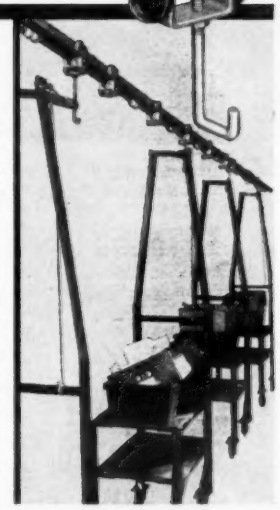


LOAD IS PULLED—NOT SUSPENDED. CAN HAUL HEAVY LOADS PER TROLLEY.

TROLLEY HOOK engages in V-frame when cart is pushed into position. Manually disengaged.

This particular installation was designed to move heavy castings. Top shelf of cart is at same level as work tables, allowing heavy bins to be slid onto cart without lifting. Caster-equipped carts negotiate corners easily. Low initial cost — low maintenance.

TIPP MANUFACTURING CO.
Tipp City 7, Ohio



INVENTORY IN MOTION WITH . . . Tipp . . . A FULLY ENGINEERED PRODUCT

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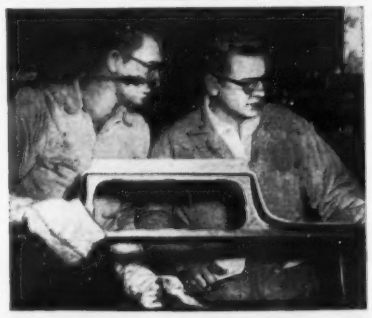
SLASH GLOVE COSTS



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Customer: major metalworking plant. Operation: fabricating large sheet metal parts. This is just one of scores of case histories on how the Jomac Cost-Reduction Plan has made big savings. Proof that this plan can work for you is yours for the asking. For "Evidence" booklet shown opposite, write to Dept. G., Philadelphia 38, Pa.

WRITE TODAY!

JOMAC INDUSTRIAL GLOVES

Plants in Philadelphia, Pa., and Warsaw, Ind.
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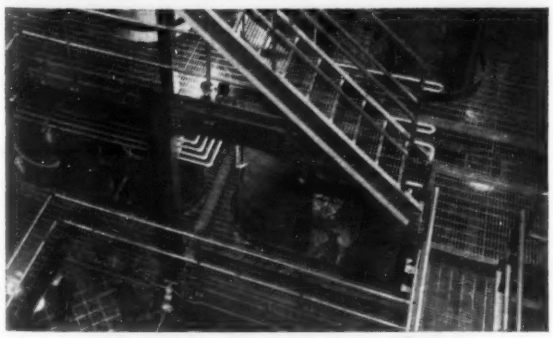

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FOR EVERY PART OF YOUR PLANT

Tri-Forged Grating is made by forge welding triangular shaped cross bars to the bearing bars, thus forming a solid surface of one-piece construction.

Tri-Lok Grating is fabricated by forcing cross bars into alternating "J" slots in bearing bars. Triple-twist and turn lock assures long-lasting construction.

Readily available through Dravo Sales Offices and Distributors. For complete information, write to Dept. D-2504, Dravo Corporation, Machinery Division, Fifth and Liberty Avenues, Pittsburgh 22, Pa.

DRAVO CORPORATION

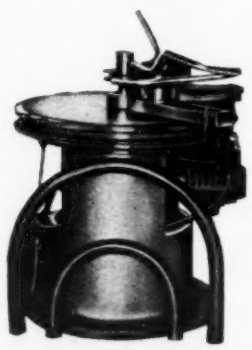
▲ For more details circle **NED-723 D8** on enclosed inquiry slip ▲

tricky

BENDS ARE EASY WITH PEDRICK BENDERS

Complicated pipe, tube or structural metal bends are a cinch with Pedrick Production Benders—on either a production or job basis.

Show us your problem—with drawings, if possible—and we'll show you the answer. Write PEDRICK TOOL AND MACHINE CO., 3640 N. Lawrence St., Phila. 40, Pa. Dept. 6.



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PEDRICK production benders

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WORM GEARS

NEW BULLETIN CD-700-C free to design engineers

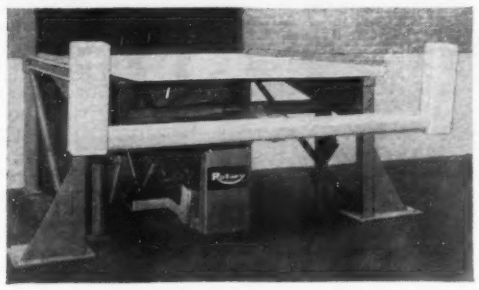
Details of hundreds of matched sets of double-enveloping worm gears. Capacities from fractional to over 1600 hp. Drawings, charts and photos illustrate 16-page booklet.

CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

▲ For more details circle **NED-725 D8** on enclosed inquiry slip ▲

LOADING DOCK RAMP
automatic mechanical unit is actuated by a backing truck

Controlled tension spring assembly of this automatic, mechanical-loading dock ramp counterbalances the weight of the heavy platform, resulting in smooth



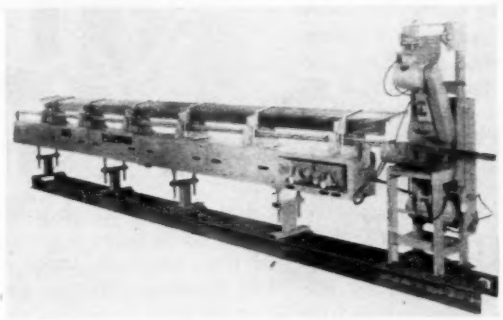
movement. Backing a truck into the bumper assembly causes the platform to rise slowly, dwell, then smoothly descend to rest on the truck bed. It will handle loads up to 20,000 lb.

The platform remains on the truck bed as truck height changes. As the truck pulls away from the ramp bumper, the platform automatically rises, then settles with the bumper extended, ready for the next truck. Platform can be used for dock space or cross traffic when not in use. Models for recessed or front-of-dock installation are available. Made by **Rotary Lift Co.**, Dept. F, 1054 Kansas St., Memphis 2, Tenn.

▲ For more details circle **NED-726 D8** on enclosed inquiry slip ▲

TUBE CUTOFF MACHINE
automatically fed from storage

Round tube or pipe up to 1.9-in. diameter can be cut with a 12 or 14-in. wheel on this swing cut-off machine. It stores the material prior to automatic feed,



stop, and clamp actions. Work is clamped pneumatically as the operator swings the head into cutting position. Setup shown cuts $\frac{5}{8}$-in. OD x 0.062-in. wall tube that is $22\frac{3}{4}$ in. long. Actual part-to-part time is 2.4 sec per piece for 10 pieces. Reload time between bars is 7 to 10 sec. Ferrous materials are cut with abrasive wheels and nonferrous materials are cut with metal wheel and mist coolant system. Made by **Wallace Supplies Mfg. Co.**, Dept. NED, 1304 Diversey Parkway, Chicago 14, Ill.

▲ For more details circle **NED-727 D8** on enclosed inquiry slip ▲

***Make Your Old* BULB-TYPE OVEN More Efficient by *Installing* dri Quik F. R. Assemblies**

***Replace* IN TWO EASY STEPS**

You can free yourself from the expense of replacement of burned-out infra-red bulbs by installing driQuik F. R. Assemblies. These units fit into your present oven and enable you to save most of the cost of a new oven. Take advantage of greater efficiency of driQuik ceramic-type generators.

TEMPERATURE CONTROL, ALSO

With the change-over you can enjoy accurate temperature control: from 0% to 100% of rated capacity. Write for literature giving complete data.

driQuik DIVISION — **DRY CLIME LAMP CORP.** GREENSBURG, INDIANA

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5 reasons why you should specify T&B Sta-kon® Terminals

HIGH CONDUCTIVITY... Pure electrolytic copper tongue. Long stake mark assures large contact area for low resistance and low voltage drop.

TIGHT, SURE CONNECTIONS... Serrated tongue and barrel never relax grip on cable. Once staked, T&B Sta-kon Terminals are on to stay.

EASY TO INSTALL... without flame, heat or flux. A T&B Shure-Stake hand tool is all you need to stake terminal to cable... bench tools also available.

CORROSION RESISTANT... Cable and barrel are compressed into a solid mass. There are no voids to permit interior attack from corrosive agents or atmospheres.

AVAILABLE IN A COMPLETE LINE... Including "specials". Wire sizes 22 to 4/0. Varied tongue styles and stud sizes, with and without insulation.

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THE THOMAS & BETTS CO.
INCORPORATED
24 Butler Street, Elizabeth 1, New Jersey
THOMAS & BETTS LTD., MONTREAL, P. Q., CANADA

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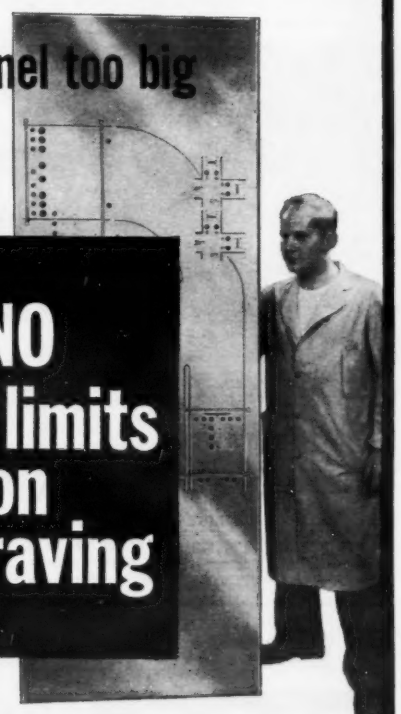
NO panel too big



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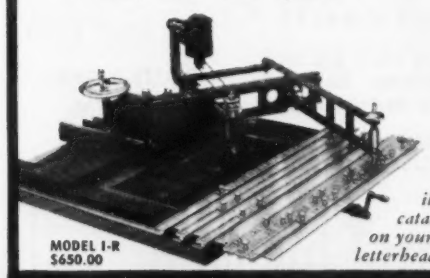

MODEL I-R $650.00

Request our 28-page illustrated catalog NR-2 on your business letterhead.

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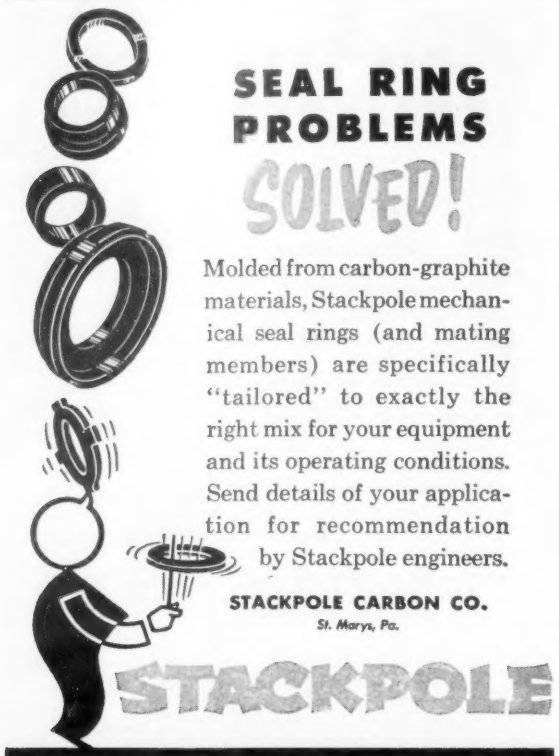

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St. Marys, Pa.

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Belts • Rolls • Sheets • Discs • Specialties

ABRASIVE PRODUCTS, INC.
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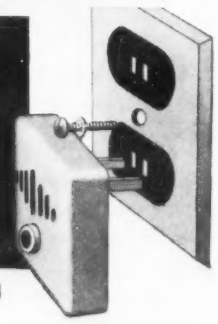

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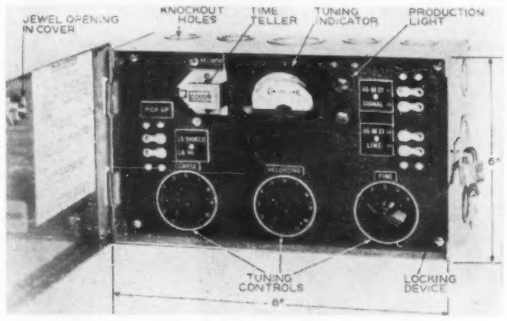
For more details circle **NED-734 D8** on enclosed inquiry slip

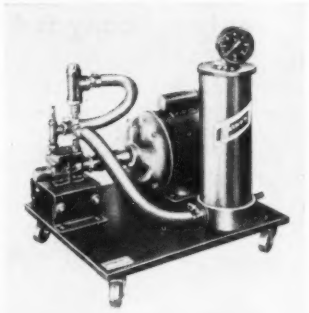
PRODUCTION TIME RECORDER
readily mounted on any machine

Actual productive time of any industrial machine is accurately recorded with this Model LH Time Teller. It measures in hundredths of hours the time the machine is producing, and all nonproductive time is erased. Actuation is by means of a Con-Trol-Ear direct vibration pick up which is mounted on any external surface of a machine. Also available is a rotary pick up which registers down to 4 rpm or 1 yd per min of product movement. Lock protects instrument from unauthorized setting or tampering. Made by **Moses Electronics Co.**, Dept. ND, 330 Locust St., Hartford, Conn.



For more details circle **NED-735 D8** on enclosed inquiry slip

FILTER-PUMPS
self-priming stainless steel series offered with four types of filters



Particles down to 1 micron are removed from most corrosive acid and alkaline solutions by the SSTI Series of stainless steel, self-priming filter-pumps. They are suited for continuous filtration in and out of the same tank, transfer filtration, or simple transfer. A by-pass valve automatically opens during filtration when filter chamber pressure reaches 35 psi due to an accumulation of impurities. Liquid then circulates inside the pump, by-passing the filter chamber. By-pass pressure is adjustable from 20 to 50 psi.

Models are offered with ½, 1, and 2-lb filter chamber dirt capacities. Filter tubes are cotton, Dynel, porous stone, or porous carbon. Packing and impeller are Teflon. Filterable particle size can be controlled from 150 down to 1 micron by varying the cotton or Dynel mesh. Motor is ¼ hp, 1700 rpm, 115 v, 60-cycle type. Pump reversing switch for backwashing the filter chamber is optional. Made by **Sethco Mfg. Co.**, Dept. NED, 2284 Babylon Turnpike, Merrick, N. Y.

For more details circle **NED-736 D8** on enclosed inquiry slip

Chief of Engineers say:
"Heap big saving on die cost with T-J CUTTERS!"

Smoke out facts—plain to see that Chief makes sense! T-J Cutters plenty rugged. Raise um feed. Reduce um die cost. Follow trail of many tribes—use T-J for tough die sinking milling. Chief knows you will like! Sign treaty now for T-J Cutters. Good medicine for high production, lower costs!

Yes, T-J makes the kind of he-man Cutters you need. Designed for speed, accuracy and long life . . . less breakage . . . more work between grinds! Made from an extremely high grade steel . . . properly machined . . . scientifically heat-treated and accurately ground. Wide range of styles and sizes. Send smoke signal or write for new catalog No. 1055. The Tomkins-Johnson Co., Jackson, Mich.

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TOMKINS-JOHNSON
VIVITORS · AIR AND HYDRAULIC CYLINDERS · CUTTERS · CLINCHERS

For more details circle **NED-737 D8** on enclosed inquiry slip

New HYDRA-LOCK EXPANDING ARBOR

The ONLY Arbor Expanded with HYDRAULIC PRESSURE

The HYDRA-LOCK principal has many other uses other than arbors and chucks.

Fixtures • Gages • Special holding and locating devices

HYDRA-LOCK is a patented, hydraulically expanded, precision tool, for internal or external chucking of parts or tools, for all types of machining, grinding and inspection operations. HYDRA-LOCK Arbors are expanded by a self-contained hydraulic system, which assures you of the only true, equalized, accurate centering force.

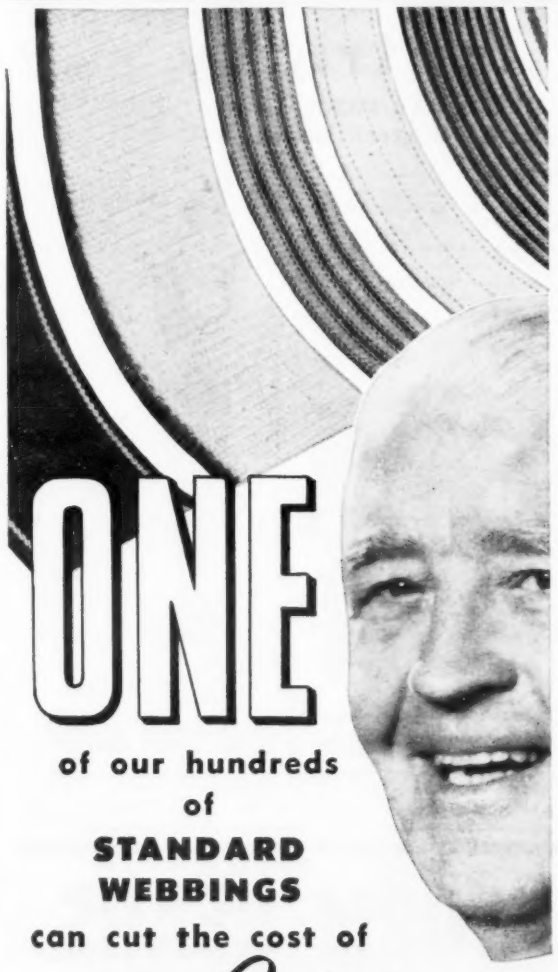
The base arbor completely fills the I.D. opening. Because there is no line contact, there is no wobble of the part during machining. This results in better finish, squareness of faces, and guaranteed concentricity.

The "Arbor on Arbor" consists of a base expanding arbor, on which you can use sleeves or wheels of any size. You get the same expansion on the O. D. of the wheel as on the base arbor. In many instances, only one base arbor is required to do a variety of holding applications.

Some territories available for Dealers or Distributors.

A & C ENGINEERING COMPANY
12024 E. NINE MILE ROAD • WARREN, MICHIGAN

For more details circle **NED-738 D8** on enclosed inquiry slip



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Your Product

No matter what you make, in which webbing plays a part, we'll bet that one of our STANDARD webbings can save you money! We have hundreds of sizes, widths, weights, solid colors and patterns made from cotton, nylon, dacron, dynel, jute and combed peeler mercerized as well as high tensile webbings. All these items are sold from our STANDARD list while most manufacturers consider 80% of them *"Specials"* and price them accordingly. We are America's OLDEST producer of webbings. Let us show you NOW, how we can save you money all year, every year.

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Tell us how much webbing you use annually and if possible send sample for us to match.

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We also manufacture a complete line of WOVEN COTTON CONVEYOR BELTS and PURE SHEET RUBBER.

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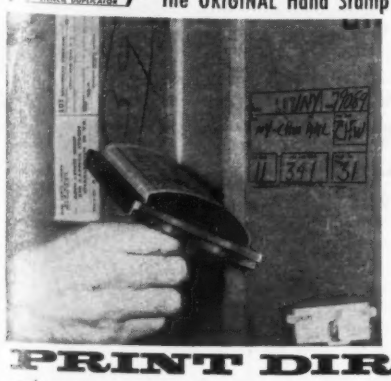

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PRINT DIRECT
Speeds Up Freight Marking

Get 1000 or More PERFECT Impressions from ONE Stencil Without Re-inking! Duplicator Made of Rustproof METAL

THE ORIGINAL HAND STAMP STENCIL DUPLICATOR

No. 3 Complete Outfit (at right, and in use above). F.O.B. Factory $19.50. At office or shipping room supply dealers . . or write for free catalog and sample FORM-CUT stencils.

OVER 35 YEARS MULTISTAMP STENCIL DUPLICATOR® THE MULTISTAMP CO. NORFOLK, VA.

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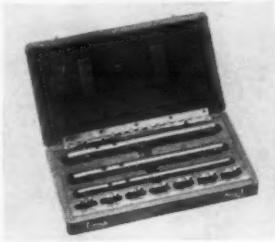
REAMER KITS
for 5/8 to 1, 1 to 2-in. holes

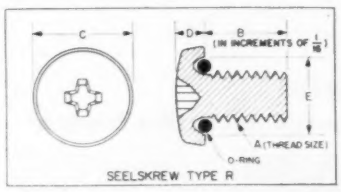


Reamer kit No. 1122 has three bars and seven cutting heads which can ream any hole from 5/8 to 1 in. diameter. Kit No. 1123, with three bars and 14 cutting heads, reams 1 to 2-in. diameter holes. All of the high speed steel tools have micro-adjustability; balanced, floating action; and cutter expandability for extensive resharpening allowance. Made by **Madison Industries, Inc.**, Muskegon, Mich.

▲ For more details circle NED-743 D8 on enclosed inquiry slip ▲

SELF-SEALING SCREWS
recessed head Phillips type

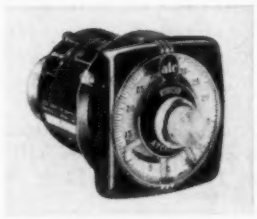
An O-ring in the groove underneath the head of Type R high pressure, self-sealing Phillips recess head screws forms a positive seal when compressed. When applied to panels, motor housings, and other equipment, the preassembled Seelskrews prevent the entry of moisture, dust, or combustible vapors.



Standard O-rings are silicone rubber, but Buna-N or neoprene rings are optional. They supplement the Type S Seelskrews with slotted head, and are made of stainless steel in a range of sizes. Other materials, sizes and head types can be ordered. Made by **Automatic & Precision Mfg. Co.**, Dept. NED, 252 Hawthorne Ave., Yonkers, N. Y.

▲ For more details circle NED-744 D8 on enclosed inquiry slip ▲

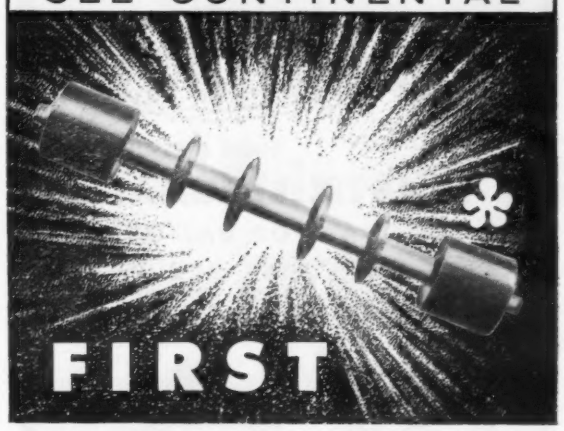
MINIATURE TIMER
controls two load circuits



Operating on the reversible motor principle, Series 306 Duo-Set repeat cycle dial timer is suited for such machine and process control applications as furnace reversal, quenching, electroplating, hoist control, conveyor drives, and pumping. Synchronous motor drives elapsed time indicator up scale and down scale to setting pointers. Reversal is smooth, silent, and self-synchronizing. The miniature timer controls two independently adjusted load circuits for off-on cycling over entire dial range. It can be mounted in any position. Dial ranges from 30 to 240 sec and 15 to 240 min are standard. Circuits are rated 10 amp at 115 v, 5 amp at 230 v 50/60 cycle ac, and 1/4 amp at 115 v dc. Made by **Automatic Timing & Controls, Inc.**, Dept. 82S, King of Prussia, Pa.

▲ For more details circle NED-745 D8 on enclosed inquiry slip ▲

SEE CONTINENTAL



FOR Return Idlers

Rubber Disc Return Idlers are ideal for belt conveyors handling damp, sticky, abrasive, or clinging materials.

Wide End Roll Rubber Disc Return Idlers support heavy belts, and assist belt training.

See Continental FIRST for ALL your conveying needs!

CGC INDUSTRIAL DIVISION Continental Gin Company BIRMINGHAM, ALABAMA
ATLANTA • DALLAS • KNOXVILLE • MEMPHIS • MOBILE • NEW YORK 17

▲ For more details circle NED-746 D8 on enclosed inquiry slip ▲

LUCKY FELLOW... HE'S SOLVED A PRODUCTION BOTTLENECK!

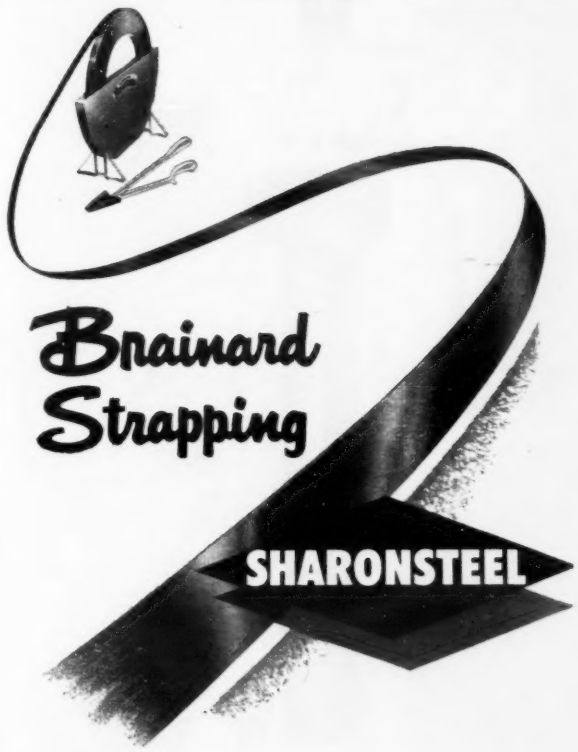
In any plant, the soldering operation is usually the function that slows down production.

That's why it's just good sense to use the best . . . Kester . . . made by Solder Experts with over 50 years of experience. Kester Flux-Core Solder will do your job in the quickest and best manner.

Free: The Kester 78-page Text Book "Solder . . . Its Fundamentals And Usage"

KESTER SOLDER Company 4249 Wrightwood Ave. Chicago 39, Ill. Newark 5, New Jersey Brantford, Canada

▲ For more details circle NED-741 D8 on enclosed inquiry slip ▲



. . . WITH EXTRA BACKING

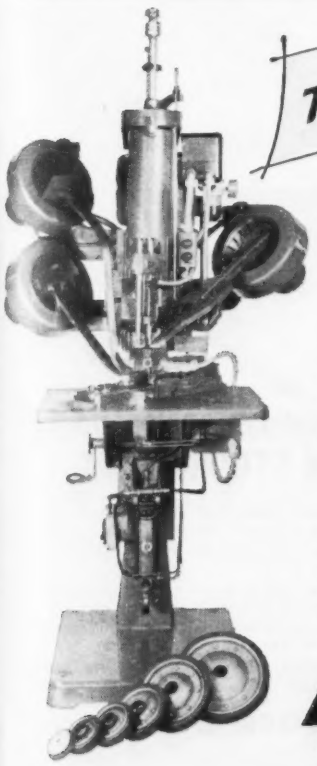
Brainard Steel Strapping has something extra to offer. As a division of Sharon Steel, Brainard Strapping is fabricated from steel that is quality controlled from mine to market. Sharonsteel, a buy-word among steel buyers, is your assurance of the finest steel strapping available when you buy from Brainard.

Sharon quality in Brainard Strapping is available in all standard sizes and gauges of tensional and heavy duty strapping.

2302

Brainard Strapping
The Brainard Steel Division of SHARON STEEL CORPORATION SHARON STEEL

▲ For more details circle NED-747 D8 on enclosed inquiry slip ▲



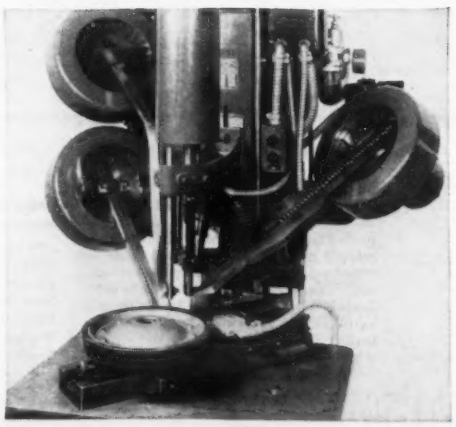
THIS 4 in 1 DPS POWER OPERATION

BOOSTS ASSEMBLY PRODUCTION 300%

• A special assembling machine built on the combination of a Power Screwdriver and three automatic Parts Feeders fastens an inner and outer flange on the rubber tires of

INDUSTRIAL TRUCK WHEELS

A screw, lock washer and nut are automatically fed and oriented, each from a separate parts feeder. The operator simply places the wheel segments in the locating fixture, starts the machine cycle indexing to the proper driving point, at which location the assembly is completed.



This unit represents but one of a thousand different applications of DPS assembling machines now in successful operation. Let us show you how you can greatly increase your production at a substantial saving by these modern power methods.

Write for Catalog . . . Send Sample Assembly

DETROIT POWER SCREWDRIVER CO.
2819 W. FORT ST. DETROIT 16, MICH.

▲ For more details circle NED-742 D8 on enclosed inquiry slip ▲

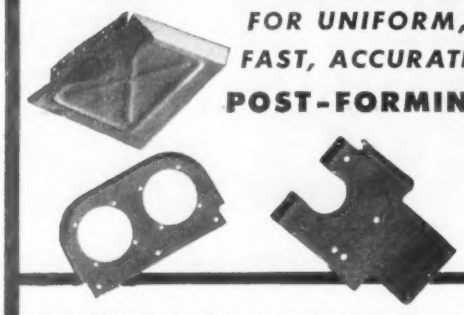
FARLITE®

HIGH PRESSURE

PLASTIC LAMINATES

FOR UNIFORM, FAST, ACCURATE

POST-FORMING

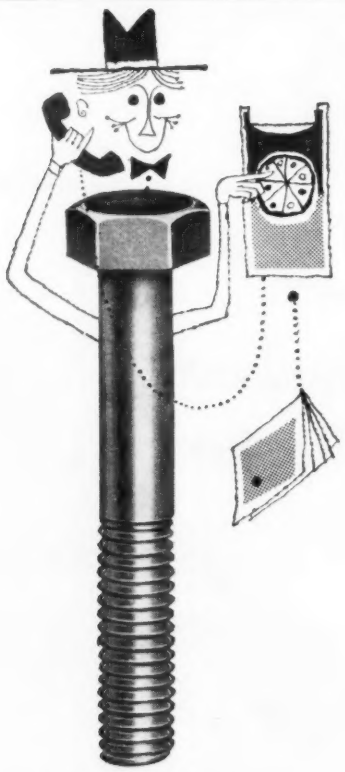


● Half the weight of aluminum, chemically inert, electrically safe, mechanically strong . . . Farlite Postforming Laminates deserve your design consideration! Available in paper or fabric base, 1/32" to 1/4" thickness. FREE CATALOG!

FARLITE

PLASTICS DIVISION
FARLEY & LOETSCHER MFG. CO.
DUBUQUE, IOWA

▲ For more details circle **NED-748 D8** on enclosed inquiry slip ▲



ALCOA ALUMINUM FASTENERS ARE AVAILABLE LOCALLY!

Yes, you have only to pick up your phone to "call in" the Alcoa® Aluminum Fasteners you need. Your local Alcoa distributor has them in all standard sizes and types for immediate delivery. "Specials" are available, too!

Get the lasting sales appeal that Alcoa Aluminum Fasteners give your aluminum products with their perfect color match, resistance to both galvanic and atmospheric corrosion. See the Yellow Pages of your telephone directory for your nearest Alcoa distributor.

ALCOA ALUMINUM FASTENERS

ALCOA THEATRE
Exciting Adventure
Alternate Monday
Evenings

Your Guide to the Best in Aluminum Value

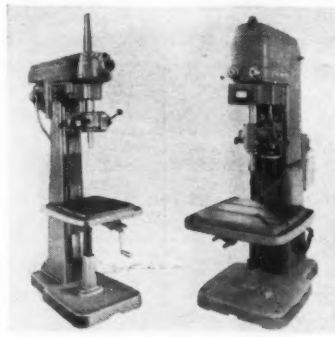
FREE . . . FACTS, SAMPLES . . . FREE . . . FACTS

Aluminum Company of America
2245-D Alcoa Bldg., Pittsburgh 19, Pa.
Gentlemen: Please send complete specification data and samples of Alcoa Aluminum Fasteners.

Name _____
Title _____
Company _____
Address _____

▲ For more details circle **NED-749 D8** on enclosed inquiry slip ▲

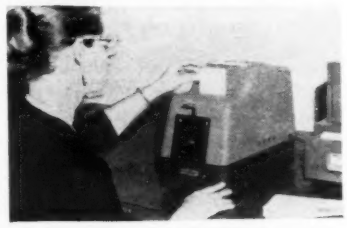
DRILLING MACHINES
afford infinitely variable speeds



Exact speed required by drill diameter and work material is obtainable with Infispeed drill heads incorporated in line of four sizes of drilling machines. Medium duty models in 16 and 24-in. sizes have a 1-in. drilling capacity in cast iron. They are made in single and multiple spindle, floor, bench, and production box column models. Heavy duty machine in 21 and 25-in. models has a 1½-in. capacity. Speed range in medium duty drills is 450 to 3000 rpm, while in the heavy duty models it is 60 to 1825 rpm. Power feed with five drill feed rates from 0.002 to 0.015 in. is standard on heavy duty machines, and optional on others. Made by **Cincinnati Lathe & Tool Co.**, 3200 Disney St., Cincinnati 9, Ohio.

▲ For more details circle **NED-750 D8** on enclosed inquiry slip ▲

MICROFILM PRINTER
for card-mounted microfilm frames



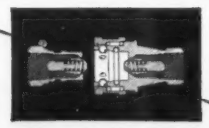
Direct, dry contact copies of card-mounted microfilm frames are made by the UNIprinter. Less than 1 min is required to make duplicate of records on microfilm in card apertures containing premounted negative or positive film. The operation is performed under ordinary room lighting. Initial printer models will process 35-mm Filmsort Duplicards containing unexposed Kalfax or diazo film, mounted in any type of file or record card from standard 3 x 5-in. type to IBM or Remington Rand tabulating (punch) cards. Kalfax is developed by heat and diazo by ammonia vapors. Standard G-E sunlamps provide the exposure light source. The UNIprinter weighs 19 lb and is 14 x 9 x 12 in. Equipped with an automatic reset timer to control exposure time, it uses 110-125-v, 50-60-cycle, ac. Made by **Filmsort Co.**, Dept. N, 50 S. Pearl St., Pearl River, N. Y.

▲ For more details circle **NED-751 D8** on enclosed inquiry slip ▲

Self-Contained Lift Tables

Southworth Machine Co.—How problems of lifting, feeding, and work positioning can be simplified is discussed in 8-page brochure on self-contained hydraulic lift tables. Typical adaptations of standard models and various applications in materials handling at production equipment are well illustrated.

▲ For more details circle **NED-752 D8** on enclosed inquiry slip ▲



Shuts off both ends of line . . . prevents loss of liquid, gas, or pressure.

HANSEN

QUICK-CONNECTIVE TWO-WAY SHUT-OFF COUPLINGS

Brass or Steel with Female Pipe Thread Connections from ⅛" to 1".

For Pressure or Vacuum Service.

Both ends of line are positively sealed when you disconnect a Hansen Series HK Two-Way Shut-Off Coupling. To connect, just pull back sleeve and push Plug into Socket. To disconnect, merely pull back sleeve. No tools required. Identical valves in Socket and Plug permit free flow of gas or liquid when Coupling is connected—practically eliminate spilling of liquid or escape of gas when disconnected.

Write for Hansen Catalog
Lists complete range of sizes of Hansen One-Way Shut-Off, Two-Way Shut-Off, and Straight-Through Couplings.

Quick-Connective Fluid Line Couplings—since 1915
Representatives in Principal Cities

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 11, OHIO

▲ For more details circle **NED-753 D8** on enclosed inquiry slip ▲

Combines fine engineering *and* economy!

. . . new FOXBORO Pressure Transmitter

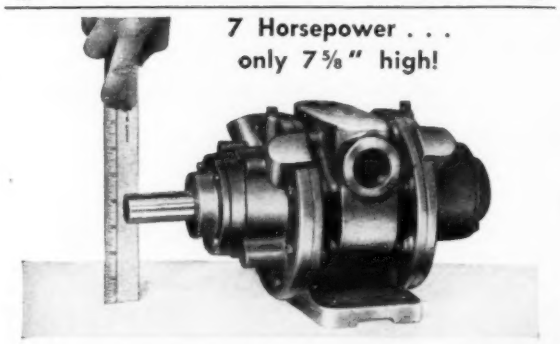
- **Scale easily readable at 20 ft.**
- **Standard time-proved component parts**
- **Simple calibration "on location"**
- **Compact integral instrument**

The new Foxboro M/44 Pneumatic Pressure Transmitter gives you a unique combination of fine engineering and economy. It's a compact, integral instrument . . . no attachments or "makeshifts." Utilizing standard, performance-proved Foxboro parts throughout, it assures you not only top performance, but easier stocking and servicing as well. "Convenience-design" makes calibration in the field a cinch. Drawn-steel, weatherproof, air-purged case with tough polyester plastic cover. A neat, high-efficiency, low-cost instrument for centralized operation or control. All standard ranges. Write for full details. The Foxboro Company, 664 Norfolk St., Foxboro, Mass.

FOXBORO REG. U. S. PAT. OFF. **INSTRUMENTATION**

▲ For more details circle **NED-754 D8** on enclosed inquiry slip ▲

7 Horsepower . . . only 7⅝" high!



It's NEW! Variable-speed Model 16AM

GAST ROTARY VANE AIR MOTOR

Here's compact, explosion-proof power! Only 14⅜" x 8" x 7⅝" — wt. 65 lbs. — yet up to 7 h.p. on 90 lbs. air pressure. Speed variable from 300 to 2,000 r.p.m. with simple valve control. Overloads can't burn it out — stalling does no harm.

Has foot, also tapped holes for flange mounting to your machine. Use as original equipment or in plant to drive hoists, mixers, pumps, fans, etc. Priced at $200.

Write for your copy of Bulletin 16AM.

GAST MANUFACTURING CORP., P.O. Box 117-R
Benton Harbor, Michigan

See Catalog in Sweet's Design File

GAST ROTARY

- AIR MOTORS TO 7 H.P.
- COMPRESSORS TO 30 P.S.I.
- VACUUM PUMPS TO 28 IN.

"Air may be your answer!"

▲ For more details circle **NED-755 D8** on enclosed inquiry slip ▲

NEED GEARS?

Eliminate 'high-cost specials' by standardizing on AMERICAN STOCK GEARS

Investigate and you'll probably find that instead of having to go to the added time and expense of ordering special gears, that your needs can be filled from the American line.

American is a complete stock gear line. It includes brass, bronze, steel, semi-steel, cast iron, and non-metallic gears in a range of 48 to 3 diametral pitch. Available from your nearby distributor of American Stock Gears.

Ask for FREE copy of American Stock Gear Catalog No. 360 containing detailed information and engineering data.

AMERICAN STOCK GEAR division
Perfection Gear Co., Harvey, Illinois

▲ For more details circle **NED-756 D8** on enclosed inquiry slip ▲

When New Molds Stick use IMS SILICONE FLUID

For Better Tool and Die Lubrication!

Shorten costly break-in periods! Simply spray on this perfect parting agent from self-dispensing aerosol! Useful too in PATTERN MAKING — releases patterns from master molds with minimum surface defects. Remember . . .

WHERE ANYTHING STICKS it always pays to try IMS SILICONE SPRAY

Get new tools into production sooner. Keep a few cans handy all the time. Order today!

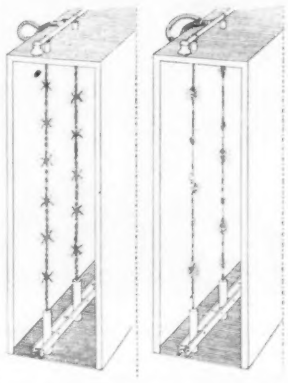
DELIVERED PRICES
Single Can $2.00
Unbroken Dozen . . . $18.00
Unbroken Gross . . . $197.40

INJECTION MOLDERS SUPPLY CO.
3514 LEE ROAD WYoming 1-1424 CLEVELAND 20, OHIO

For more details circle NED-757 D8 on enclosed inquiry slip

PRECIPITATOR ELECTRODE controls corona discharge to increase electrostatic efficiency

Insulating effect caused by build-up of collected solids (drawing at right) on the energizing electrodes of electrostatic precipitators can be controlled by a new type of electrode. The device achieves complete control of the corona discharge and thus increases efficiency. This new electrode closely resembles ordinary barbed wire and is suspended vertically between the collecting plates.

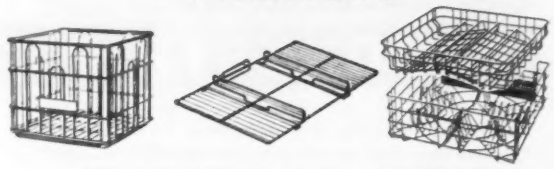


Regardless of the insulating build-up on the main wire, the barb points remain clean (drawing at left) and the corona discharge occurs constantly at those points. Flash-over arc to the collecting walls is eliminated. Proper barb spacing achieves complete corona discharge control throughout the entire precipitator. Use of this electrode makes possible application of more power with higher efficiencies in existing equipment or new units with higher capacities in a smaller size. Made by **Koppers Co.**, Metal Products Div., 280 Scott St., Baltimore 3, Md.

For more details circle NED-760 D8 on enclosed inquiry slip

FOR ECONOMY and DURABILITY . . .

Formed Wire Products by Peerless



Now, more than ever, *Economy* of production is important. For this reason alone you'll be wise to investigate Peerless' service on formed wire product design and fabrication.

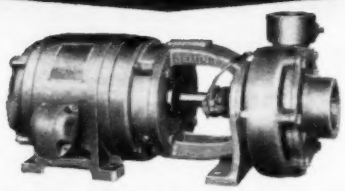
The *Durability* of Peerless' formed wire products too, speaks of quality through and through.

Write today! Your drawings and specifications will bring cost saving quotations by return mail.

PEERLESS WIRE GOODS COMPANY, INC.
2706 FERRY STREET · LAFAYETTE, INDIANA

For more details circle NED-762 D8 on enclosed inquiry slip

DEMING "MOTOR-MOUNT" CENTRIFUGAL PUMPS



"Motor-Mount" Centrifugal Pumps . . . ranging from 1½" to 5" discharge . . . capacities to 1200 gallons per minute. From 1 to 30 horsepower. Deming's complete line of pumps for industrial requirements includes:

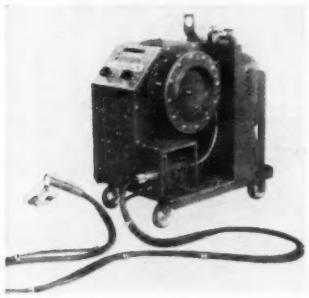
- Vertical Turbine Pumps
- Multi-Stage High Pressure Vertical Centrifugal Pumps
- End-Suction Centrifugal Pumps
- Vertical Sump Pumps

For information and detailed specifications, contact your qualified Deming distributor or write:

THE DEMING COMPANY
520 Broadway • Salem, Ohio

For more details circle NED-758 D8 on enclosed inquiry slip

SUBMERGED ARC WELDER mechanical unit is semiautomatic; operates at up to 70 ipm, 600 amp



Mechanized, submerged arc, Lincolnweld ML-3 welding machine provides automatic wire feed, flux flow, and travel speed, but permits manual guiding of the welding arc. It feeds a continuous wire electrode from a coil to a compact hand - held gun which is held against the joint along which it is propelled at a preset speed by a small motor. It covers the arc at all times, yet does not flow ahead of the arc.

Speeds up to 70 ipm using up to 600 amp are possible. Use can be on materials ranging from 10 gage upward. The speed control dial and reversing switch are mounted on the motor. Air from the plant air supply fluidizes the granular flux to keep it flowing freely from a large tank. Unit operates from any variable voltage motor-generator set or rectifier with a 400-600 amp dc capacity. Separate 115-v ac source is required for the control circuits. Made by **Lincoln Electric Co.**, Dept. H, 22801 St. Clair Ave., Cleveland 17, Ohio.

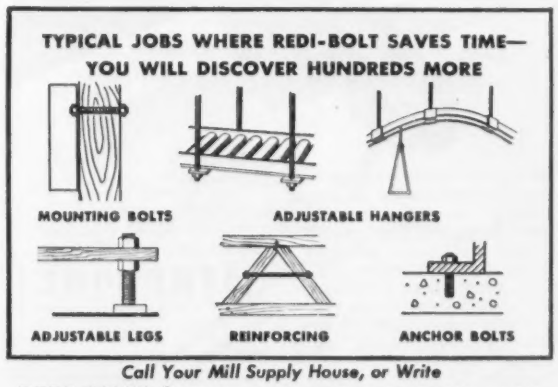
For more details circle NED-761 D8 on enclosed inquiry slip

CUT SPECIAL BOLTS & HANGERS FROM Pre-Threaded REDI-BOLT® STEEL RODS

13 Diameters
Two Thread Sizes
Two Std. Lengths

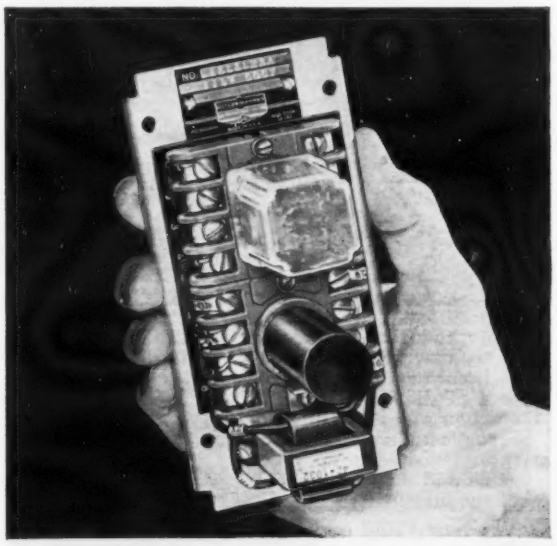
Just cut Redi-Bolt to the length required *on the job*—no threading necessary. Bend to special shapes, too. No need to waste valuable time running down special bolts. The time you save helps squeeze more jobs into a day . . . makes man-hours more productive. Redi-Bolt is supplied in 13 precision-threaded diameters, 3/16" to 1½", and in standard lengths of 24" and 36". Other lengths on special order. All sizes are available in *Standard National Coarse* and *SAE* or *National Fine* threads. Galvanized and rust-resistant finishes. Order a supply of various sizes today.

TYPICAL JOBS WHERE REDI-BOLT SAVES TIME— YOU WILL DISCOVER HUNDREDS MORE



Call Your Mill Supply House, or Write
REDI-BOLT, Inc. 5312 Indianapolis Blvd., East Chicago, Ind.

For more details circle NED-763 D8 on enclosed inquiry slip



NEW TRANSISTORIZED RELAY COMBINES FINE-SENSITIVITY WITH HEAVY-DUTY CONSTRUCTION

Machine designers and panelbuilders have found this new Cutler-Hammer Transistorized Relay to be particularly useful whenever their control problems call for an A-c relay which will respond to either an A-c or D-c signal between .002 and .02 amperes. The heart of this compact relay is the plug-in type signal-amplifying module which contains all the electronic parts. This tough module is practically indestructible, and the plug-in design simplifies maintenance . . . cuts downtime to a minimum. The Bulletin 13535 transistorized relay requires no warm-up time and is exceptionally quick in operation. Relay is rated at 10 amperes, 100 volts and the price is unusually low. Cutler-Hammer also offers conductive liquid level probes and photo-cell units for use with these relays. For complete information write for Bulletin 13535. CUTLER-HAMMER Inc., 1377 St. Paul Avenue, Milwaukee 1, Wisconsin. *Associate:* Canadian Cutler-Hammer, Ltd., Toronto.

Design Features: Two pole, double throw plug-in relay with dust-proof cover • Tough plug-in signal—amplifying module safeguards all electronic parts • Quick response • No warm-up required • Sensitive to low powered signals • Convenient terminal board connections • Available in NEMA 1 enclosure or open type

CUTLER-HAMMER MOTOR CONTROL C-H

WHAT'S NEW IN MOTOR CONTROL? GET IT FIRST IN CUTLER-HAMMER

For more details circle NED-759 D8 on enclosed inquiry slip

PAINT STRIPPING CLINIC!

Send Us Your Tough Stripping Problems for Fast Action!

10 YEARS OF BECK PAINT STRIPPING CLINICAL SERVICE Saves Thousands of $$$ for Customers—Who Now Use World-Famous...

EPOXYSTRIP

Better find out for yourself . . . about Epoxystrip, Econostrip and other Beck Paint Remover lines and formulations. Use the BECK CLINIC SERVICE — send us several parts, sections, or test panels (properly tagged) of the work to be stripped.

Write or 'phone giving us essential information—your problem details, requirements, tanks available, hot or cold, etc. This service, and our prompt report, are free, with no obligation.

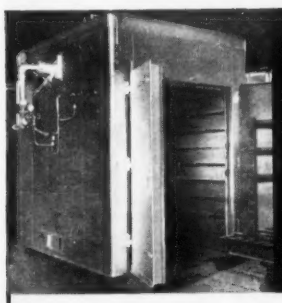
Beck Strippers outstrip all others — removing organic finishes, epoxies, etc., as easily as baked enamels, lacquers, etc. No stripping scum — clean rinsing!

SEND FOR FREE BROCHURE

BECK EQUIPMENT COMPANY
3350 WEST 137th STREET — CLEVELAND II, OHIO

▲ For more details circle NED-765 D8 on enclosed inquiry slip ▲

NOW! A TRULY VERSATILE STANDARD KILN TYPE OVEN



FOR
- **BAKING**
- **HEATING**
- **DRYING**
- **CURING**

MOCO has incorporated many custom, money-saving features into this standard oven — using gas fuels or electricity.

They offer *maximum temperature uniformity* and *complete safety equipment* at amazingly low initial cost. You can depend fully on a MOCO-engineered product!

MORE INFORMATION?
If you are in the market for a standard oven, be sure and send for this informative brochure.

MICHIGAN OVEN COMPANY
419 Brainard, Detroit 1, Mich.

▲ For more details circle NED-766 D8 on enclosed inquiry slip ▲

NEW AIRETROL

TUBE EXPANSION CONTROL
rolls tubes automatically to uniform accuracy

Pneumatically operated

Write for Bulletin No. 64

Now . . . a complete expansion control system in one compact, easy-to-operate tool. Powerful pneumatic motor drive . . . simple finger-tip adjustment . . . precision torque sensing mechanism automatically controls expansion within .001 of an inch. Smooth, "no-shock" operation prevents operator fatigue . . . lowers tube rolling time and costs.

BRANCH OFFICES: New York, Chicago, Tulsa, Philadelphia, Houston, Baton Rouge.
REPRESENTATIVES in principal cities of U. S. A., Canada, Mexico, South America, England, Europe, Puerto Rico, Italy, Japan, Hawaii.

AIRETOOL MANUFACTURING COMPANY
SPRINGFIELD, OHIO
EUROPEAN PLANT: Vlaardingen, The Netherlands
CANADIAN PLANT: Brantford, Ontario

▲ For more details circle NED-767 D8 on enclosed inquiry slip ▲

FLOOR MAINTENANCE MACHINE will scrub, damp-dry, polish, clean

Cleaning at rate of up to 12,500 sq ft of floor per hour, this Convertamatic multipurpose floor maintenance machine is operated by one man. In a single pass, it will lay the cleaning solution, scrub, pick up the dirty solution, and damp-dry a 24-in. wide swath. By changing scrubbing brushes to polishing brushes or steel wool pads and snapping on a dry pick-up unit, machine will polish a 24-in. wide path and remove all loose dirt by suction. Two ¾-hp motors power the brushes and vacuum units. Gasoline or propane powered models are available. Made by **Advance Floor Machine Co.**, 4102-E Washington Ave. N., Minneapolis 12, Minn.

▲ For more details circle NED-768 D8 on enclosed inquiry slip ▲

LARGE POWER SWEEPER travels up to 15 mph and sweeps a 7-ft 4-in. path

Large Model 100 vacuum power sweeper which can sweep a 7-ft 4-in. path is designed for industrial yards, parking lots, cement plants, foundries, and large plant

areas. Dust-laden air is forced through a 540-sq ft filter system that removes particles as fine as 5 microns. With its 9-ft 2-in. turning radius, sweeper can maneuver easily around parked cars, machinery, and between buildings.

Main broom and two gutter brooms rotate inside vacuum-equipped housings. Heavy debris is discharged into 1¾-cu yd hydraulically dumped hopper, whereas lighter dirt is removed by dust separation mechanism. Sweeper travels at up to 15 mph and is offered with power steering, power brakes, and cab. Made by **G. H. Tennant Co.**, 721 N. Lilac Dr., Minneapolis 22, Minn.

▲ For more details circle NED-769 D8 on enclosed inquiry slip ▲

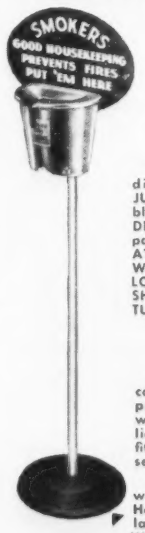
CIGARS-CIGARETTES-MATCHES immediately extinguished ...with SIPCO DUNKING STATIONS

Fire Hazards from Smoking are a problem EVERYWHERE.

STOP FIRES BEFORE THEY START—with SIPCO DUNKING STATIONS.

Heavy duty CAST ALUMINUM canisters—guaranteed 3 years against breakage. Partly filled with water, they drown the "smoke". NO FIRE HAZARDS — NO ODORS — NO UNSANITARY CONDITION.

Lift off the canister, flip back the lid, dump it and the cleaning job is done.



Available in over a dozen different STANDARD and JUMBO SIZE models. Choice of black crinkle or bright polished DELUXE finishes to suit your particular requirements. NEAT, ATTRACTIVE — USED EVERYWHERE — OFFICES, CLUBS, LOUNGES, HOSPITALS, HOTELS, SHOPS, RESTAURANTS, INSTITUTIONS, SCHOOLS, ETC.

NEW MODEL 4J
Designed for permanent mounting on walls, posts, columns, etc. in public areas. Eliminates pilfering problem. JUMBO size canister furnished with light weight, rugged glass-fiber inner-liner. Flip back the lid—lift out the inner-liner and dump it. Inner-liner fits all JUMBO size SIPCO canisters and is available separately.

MODEL 1JD
JUMBO size DELUXE FLOOR MODEL. Heavy weighted base and attractive, eye catching sign. Height 42"—weight 26 lbs. Ideal for halls, aisles, landings, etc. Also available less sign (MODEL 1JWS). WRITE FOR ILLUSTRATED BROCHURE.

STANDARD INDUSTRIAL PRODUCTS CO.
DEPT. D • 920 N. GARFIELD AVE. • PEORIA, ILLINOIS

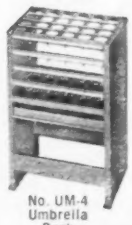
▲ For more details circle NED-770 D8 on enclosed inquiry slip ▲

The OFFICE VALET® Lockerette

Combines the best features of both lockers and coat racks.

Wraps are exposed to air and light. Employees do not face the weather in damp wraps that have been crumpled in dark lockers—do not eat soggy lunches, soaked by wet hats or gloves. Each person has his own spaced coat hanger, ventilated hat shelf and 12" x 12" x 15" deep lock box for lunches, tools and personal effects. Improves health and morale—lower absenteeism.

Lockerettes save space too . . . the No. 6-12 (2-column) accommodates 12 people in 6 feet; the No. 9-18 (illustrated) accommodates 18 in 9 feet.



No. UM-4 Umbrella Rack

WRITE FOR BULLETIN LO-8

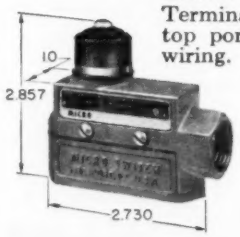
VOGEL-PETERSON CO. 1121 West 37th St. Chicago 9, Ill.

▲ For more details circle NED-771 D8 on enclosed inquiry slip ▲

MICRO SWITCH Precision Switches

NEW...A new housing for the widely used "E" and "V" series switches

This new housing replaces the one formerly used in the "E" and "V" series and is to be known as the "E6" (side mounting) and "V6" (bottom mounting) series. This new series provides these distinct advantages:

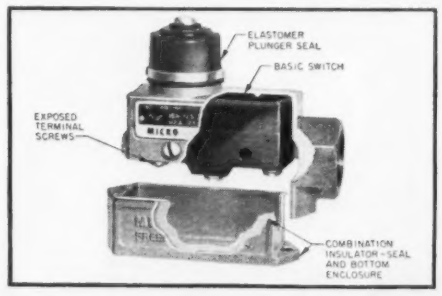


Easier Installation
Terminal screws now project from top portion of housing for easier wiring.

Improved Insulation
A one-piece moulded neoprene insulator-seal, cemented into lower portion of housing, replaces the separate, wrap-around Fiberglas insulator and separate gasket.

More Rugged
Heavier walls, a hex-shaped conduit hub, a much cleaner, stronger design.

Interchangeable with Old Series
Dimensionally the same as old series. Same mounting holes, same width, height and depth.



Note how terminal screws in the new "E6" and "V6" series project from the bottom of the top portion of the housing; how the insulator and seal are one moulded neoprene piece cemented into the bottom of the housing.

The new "E6" and "V6" series can be installed in jig time. No deep cavity with hard-to-reach terminals, no fold-in insulator, no separate sealing gasket.

For complete details, write for Data Sheet No. 145.

MICRO SWITCH
A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY
In Canada, Leaside, Toronto 17, Ontario • FREEPORT, ILLINOIS

First in Precision Switching

▲ For more details circle NED-772 D8 on enclosed inquiry slip ▲

NEW CONCEPT OF SAFETY AND STABILITY IN BALLYMORE Safety-Step LADDERS

SECURE FEELING OF WORKERS RESULTS IN BETTER, FASTER WORK

The new pyramid design of BALLYMORE Safety-Step LADDERS offers above-floor working safety never before available. Thirty-five models offer work levels up to fifteen feet. Write Ballymore Company, West Chester 3, Pa., for new 20-page catalog describing complete line of Ballymore equipment.

BALLYMORE "Hi-boy" SAFETY-STEP LADDERS

Step on the pedal, two legs and non-swiveling rear casters hold ladder firmly in place while in use. Release pedal, ladder rolls easily to new location.

Eight-step, work levels to 12 ft.

MANY MODELS TO CHOOSE FROM
STEEL OR ALUMINUM

Seven-step, Handrails

Casters provide fingertip mobility. Rubber-tipped legs lock to floor when in use.

Two-step, All-Aluminum

CHOICE OF WIDTHS
CHOICE OF HEIGHTS

BALLYMORE
EQUIPMENT FOR ABOVE-FLOOR WORKING SAFETY

THE STANDARD BY WHICH ABOVE-FLOOR SAFETY IS JUDGED

▲ For more details circle **NED-773 D8** on enclosed inquiry slip ▲

TO GET THE FLEXIBLE COUPLING BEST SUITED FOR YOUR JOB...

USE THE **Lovejoy**

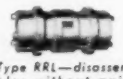
FLEXIBLE COUPLING GUIDE

Save time, money and mistakes, insure trouble-free performance . . . by using the Lovejoy Flexible Coupling Guide. You'll get the exact type and size for your particular application—*plus all these Lovejoy features:*

- No lubrication required.
- Simple, rugged construction—few parts, no intricate mechanisms.
- No wear on metal parts—the load is transmitted through cushions only.
- Double-life cushions—one half the cushions act as idlers, except on reversing loads. Thus, a quick interchange provides a new set of cushions.
- Cushions engineered to load and service conditions.
- A maintenance-free coupling that is completely machined for ease and speed of alignment.
- Act now! Send for your Flexible Coupling Guide today. Request catalog.

Type L—standard duty, spider cushion.

Types C and H—medium and heavy duty, individual cushions.

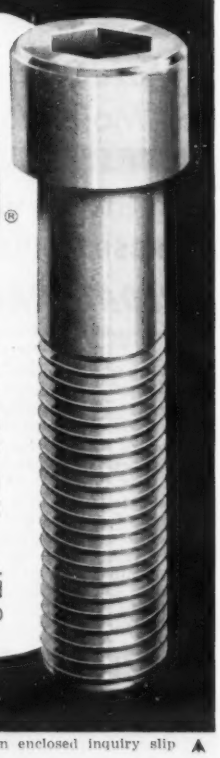


Type RRL—disassembles without axial movement of shafts.

Type CF—bolts directly to flywheel.

LOVEJOY FLEXIBLE COUPLING CO.
4803 WEST LAKE STREET • CHICAGO 44, ILLINOIS

▲ For more details circle **NED-774 D8** on enclosed inquiry slip ▲



You can do better...with

B-RIGHT-ON®
SOCKET SCREW PRODUCTS

- Rigid QUALITY CONTROL from initial steel selection to final packaging
- IMMEDIATE SERVICE from selected mill supply houses' stocks
- Design and Dimensional Brochure on request

THE BRIGHTON SCREW & MFG. CO.
1957 Reading Road
Cincinnati 2, Ohio

▲ For more details circle **NED-775 D8** on enclosed inquiry slip ▲

TUBING-DUCTING JOINT
for connecting dissimilar metals

Of all-metal construction, the Conoseal joint has a compression type metal gasket for connecting tubing and ducting of dissimilar metals that are subject to extreme temperatures. Perfect fluid line seal is achieved at −300 to 1600° F and 6000 psi. Joint withstands axial deflections up to 1/16 in. without sacrificing sealing qualities. Standard sizes from 1 to 12-in. OD in low, medium, and high operating ranges are suited for pneumatic, liquid oxygen, hydraulic, exhaust, and fuel systems. Made by **Aeroquip Corp.**, Marman Div., Dept. A-1, 11214 Exposition Blvd., Los Angeles 64, Calif.

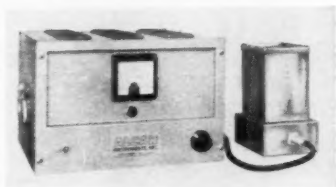
▲ For more details circle **NED-776 D8** on enclosed inquiry slip ▲

FOAM RUBBER CUSHIONS
for steel stools and chairs

Foam rubber cushions are now available for round metal, plywood, or shaped plywood seats as well as for the backs of Hallowell standard stools and chairs. Cushions are covered with tough vinyl plastic in kid-grained neutral gray. Edges are bound with heavy webbing, and all seams are plastic beaded for durability. Snaps facilitate installation. A plastic rim holds round seat cushions in place. Made by **Standard Pressed Steel Co.**, Box 581, Jenkintown, Pa.

▲ For more details circle **NED-777 D8** on enclosed inquiry slip ▲

ULTRASONIC CLEANER
has 6 x 6 x 6-in. stainless tank



Small part and printed circuit cleaning, blind hole washing, removal of radioactive contamination, and other difficult cleaning operations are performed by this 50-w ultrasonic cleaner. Crystal transducers are mounted on the bottom of the 6 x 6 x 6-in. stainless steel tank. Liquid capacity is 2 qt. An optional 0 to 15-min timer shuts off the generator at a predetermined time. Two tanks may be used alternately for different solutions or for a final, extra-clean rinse. Unit with one tank and connecting cables sells for $350. Made by **Alcar Instruments, Inc.**, Dept. NED, 17 Industrial Ave., Little Ferry, N. J.

▲ For more details circle **NED-778 D8** on enclosed inquiry slip ▲

Cost-cutting **ideas** ...at your doorstep

See them in the DENISON MULTIPRESS mobile display

Loaded with ideas and tips to *help you cut costs*... the new DENISON MULTIPRESS mobile display is rolling your way!

See the DENISON 1-ton hydraulic MULTIPRESS in action "on your doorstep." It's industry's most versatile tool . . . and *your* best bet for 101 different operations. Make *your* date with the DENISON MULTIPRESS mobile display today!

Write today for full details. DENISON ENGINEERING DIVISION, American Brake Shoe Co., 1192 Dublin Road, Columbus 16, Ohio.

Denison, Denison HydrOILics, and Multipress are registered trademarks of Denison Eng. Div., ABSCO

DENISON HydrOILics

HYDRAULIC PRESSES • PUMPS • MOTORS • CONTROLS

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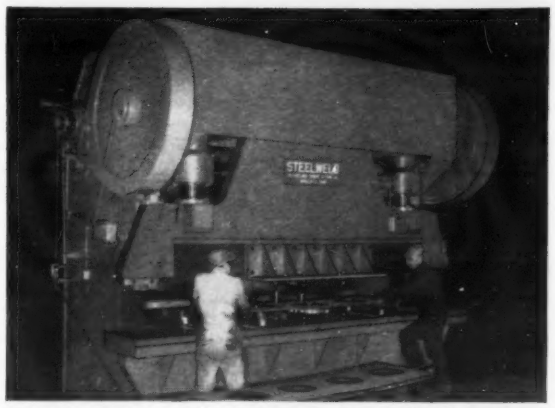


PUNCHES 15" HOLES IN 3/16" STEEL

Also Performs Bending and Flanging Operations

The big holes in Warner & Swasey's Gradall boom plates are punched and flanged on a Steelweld Bending Press. Practically all other steel on the Gradalls is formed and punched on the press. The versatility of Steelweld Presses to handle efficiently many varied operations has proven of great advantage to many users.

STEELWELD BENDING PRESSES CATALOG No. 2010

Send for free copy of catalog No. 2010.

THE CLEVELAND CRANE & ENGINEERING CO.
6653 East 281st St., Wickliffe, O.

STEELWELD PRESSES

▲ For more details circle **NED-780 D8** on enclosed inquiry slip ▲

EXCLUSIVE **GITS MATCHED-SET AIR LINE LUBRICATION**

To meet modern industry's growing demand for better air line lubrication, this complete "matched-set" line of Air Line Lubricators, Filters and Regulators offers an exclusive combination of important advantages, including:

REDUCED INVENTORY. Only 1 size handles any air line in the plant up to ¾" pipe size.

INSTANT MONITORING by Gits Mist-a-Dome.

MINIMUM PRESSURE DROP, regardless of volume of air: a result of Gits By-Pass Valve.

FLEXIBILITY. Can lubricate from ¾ to 90 cubic feet of air per minute.

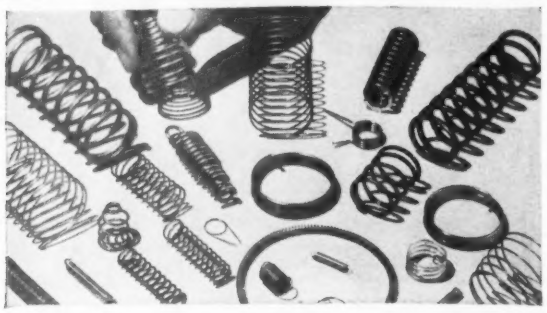
Get full details. Send for this

NEW FREE CATALOG

GITS BROS. MFG. CO.
Pneumatics Division
1833A South Kilbourn Avenue, Chicago 23, Illinois.

See us at the Design Engineering Show, Chicago Amphitheatre, Booth 838

▲ For more details circle **NED-781 D8** on enclosed inquiry slip ▲



fine wire

engineered for the toughest jobs

National-Standard specializes in development of wire for springs, wire forms and for unusual direct application:

- Drawn wire in fine sizes of titanium, stainless and high carbon steel with all customary and special finishes.
- Trucoat and Micro-Tin music spring wires (Tradenamed N-S developments).
- Brassply, Copperply and Nickelply electroplated wires (Tradenamed N-S developments).
- Special-purpose wire strand and flat and tubular braid in steel and other metals.

Indicate your requirements and write for details.

National-Standard Company • Niles, Michigan

NATIONAL STANDARD

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Webster DIRECT READING HYDRAULIC TYPE FORCE GAUGES

Measures electrode pressure on spot welders and roll welders. Makes compressive tests on forming, dimpling and upsetting operations. Also useful for weighing. Insulated contact surface prevents damage if welder is accidently fired. Easy setups, no delicate mechanisms, 5 ranges: 0-1000, 6000, 10,000, 20,000, 40,000 lbs. 3½" diameter gauge with accuracy to 1%. Reads directly in pounds—no conversion scales. Write for details.

Webster INSTRUMENT, INC.

Dept. N, 11856 Mississippi Ave., Los Angeles 25, California

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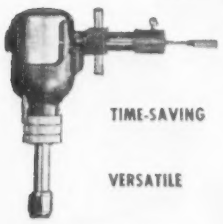
THE

Di-Profiler RECIPROCATING HAND MACHINE

does your job faster



TIME-SAVING

VERSATILE

ADAPTABLE

For precision cutting, roughing, finishing of tools, dies, molds. For straight, or irregular surfaces, convex or concave curves—also shoulders, recesses and hard-to-get-at or intricate detail.

Saves hours of tedious hand labor in grinding, filing, scraping, honing or polishing. The reciprocating speed is variable from 0 to 100 strokes per second; and the stroke is adjustable from 0 to 6 mm. (¼ inch). Sturdily built, the Di-Profiler is light; free from vibration.

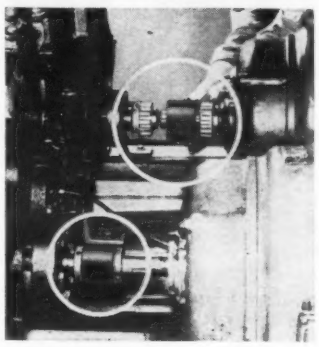
A complete assortment of efficient accessories and tools is available for every type of work: steel and diamond files, diamond discs, laps, hones, T-C scrapers; also rotary tools including diamond wheels, burrs and points.

Investigate the Di-Profiler a minor investment that assures savings of time and costs. Ask for a demonstration or price list DN-18

ENGIS EQUIPMENT COMPANY
Sole authorized distributor for the U.S.
431 S. DEARBORN ST., CHICAGO 5, ILL.

▲ For more details circle **NED-784 D8** on enclosed inquiry slip ▲

FLEXIBLE COUPLING has 30-degree twist angle and free revolution under overload



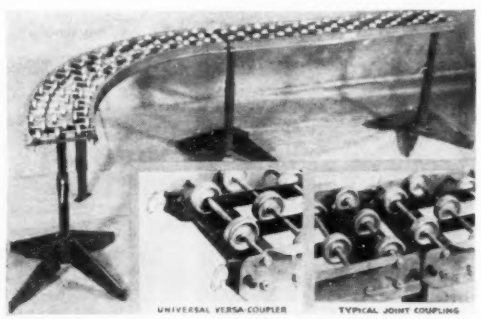
U. S. PowerGrip flexible coupling, a positive dry unit that requires no lubrication is available for troublesome power transmission conditions. It is comprised of three parts: A heat and oil-resistant neoprene sleeve with axially molded internal teeth; and two metal end fittings with grooves that match the sleeve's teeth. Installation can be made by visual shaft alignment without micrometer measurements. Over-all coupling length can be varied by increasing the length of the sleeve section as required.

In case of severe overload, the rubber sleeve expands, permitting the end fittings to revolve. Coupling also has a 30-degree twist angle which allows it to absorb load pulsations, shocks, and torsional displacements. Two basic hub sizes with two, four, and six-ply rubber variations for different torque capacities satisfy load requirements up to 40 hp at 1750 rpm or torque loads up to 1440 lb-in. Made by **United States Rubber Co.**, Dept. NED, 1230 Avenue of the Americas, New York 20, N. Y.

▲ For more details circle **NED-785 D8** on enclosed inquiry slip ▲

GRAVITY WHEEL CONVEYOR 12, 18, and 24-in. widths offered

Enameled steel or aluminum formed channels with choice of zinc-plated steel or aluminum wheels are offered in the Versa-Roll gravity wheel conveyor line.

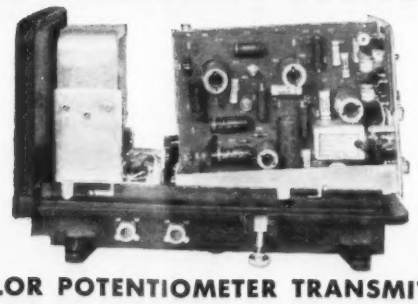


Straight and curved 12, 18, and 24-in. widths have a Versa-Coupler swivel type hook on both ends of all sections to join them together. Coupler also permits a small angular adjustment between sections and fits hook and rod type couplers used on other makes of conveyors. Permanent Versa-Stands and various accessories, including guard rails, case stops, center leg supports, spurs, and switches, are also available. Made by **Belt Corp.**, 8222 Stahl Rd., Orient, Ohio.

▲ For more details circle **NED-786 D8** on enclosed inquiry slip ▲

NOW AVAILABLE

FOR IMMEDIATE DELIVERY



TAYLOR POTENTIOMETER TRANSMITTER

(Calibrated to Your Specs)

The 700T TRANSET* Potentiometer Transmitter is now in stock for immediate delivery. The unique plug-in amplifier, transducer and service cans make it completely flexible—can be adapted to your specs in minutes. Available from stock with: **Thermocouple** in Copper-Constantan, Iron-Constantan, or Chromel-Alumel. **Voltage** for pH; strain gages; tachometers; 0-50 mv.

Transmitter converts a dc primary electrical signal into a 3 - 15 psi pneumatic output for controllers and receivers. Write for **Catalog 98262.** Taylor Instrument Companies, Rochester, N. Y., or Toronto, Ontario.

*Reg. U.S. Pat. Off.

Taylor Instruments **MEAN ACCURACY FIRST**

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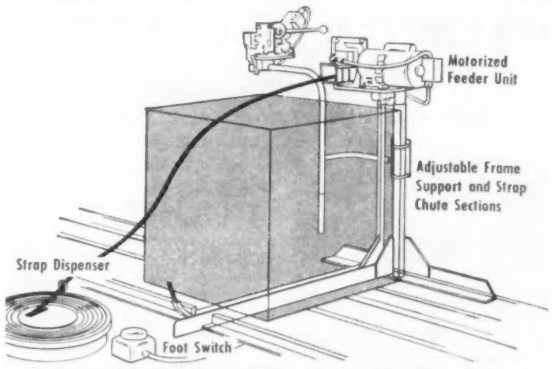


New Signode power strap feeder puts strapping around big packages fast!

With this new power strap feeder, one man quickly straps big packages without a helper and without walking around the package. The PSF-1 applies 200 or more straps per hour, cuts strapping labor costs in half.

Here's the machine to use on big packages or bundles along with any Signode seal feed tool—hand, pneumatic, or electric—mounted in a tool balancer. Cost is modest; rental at nominal charge available.

New free literature sent promptly. For a demonstration, call the Signode man near you, or write:

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
Offices Coast to Coast
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

▲ For more details circle **NED-788 D8** on enclosed inquiry slip ▲

Gain the economies of

AUTOMATION!

Model 3 — 26-ton capacity

NEW chain-driven FEDERAL dial feeds

Federal Dial Feeds eliminate the need for specialized, costly machinery; step up production many times. May be equipped with automatic feeds and ejectors. Rotating table is driven by automotive timing gear-type chain. Index and work plates operate on thrust bearings. Shot pin with tapered bushing assures accuracy. Rugged. Precision built. Eight sizes. Six to eighty ton capacities. Call your dealer or write today.

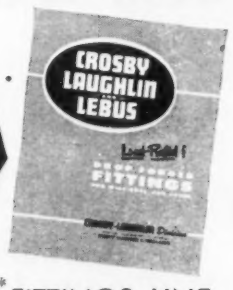
FEDERAL PRESS CO.
806 Division St., Elkhart, Indiana

FEDERAL DIAL FEED PRESSES
33 Years' Experience in Dial Feed Engineering and Construction

▲ For more details circle **NED-789 D8** on enclosed inquiry slip ▲

FREE NEW CATALOG

LISTS
More Products...
More Data



in the new
CROSBY-LAUGHLIN

*"LOAD RATED"** FITTINGS LINE

The world's most complete line of drop forged fittings for wire rope and chain

Detailed capacities, specifications and dimensional data are contained in this catalog listing over 2000 items. This complete data is directly transferable to your standards books.

For all lifting jobs "Load Rated" Fittings—featuring new alloys and a broader range of sizes—offer higher, guaranteed capacities with the safe working load permanently forged on every item. You're sure of getting *genuine* Crosby-Laughlin* Fittings because they're now painted RED—the color long identified with famous Crosby Clips and Blocks. Get this catalog that lets you order hooks, shackles, other fittings the *safe way—by capacity*, from mill supply, industrial or construction equipment distributors—or write direct to:

*Trademark

CROSBY-LAUGHLIN *Division*
American Hoist and Derrick Company
FT. WAYNE 1, INDIANA

▲ For more details circle **NED-790 D8** on enclosed inquiry slip ▲

LIGHTWEIGHT Handy Man GOES ANYWHERE

HYTROL MODEL R ALUMINUM CONVEYOR

Folds in half for easy moving

Write for your Hytrol Catalog

Sizes from 10 to 21 feet, 12" belt, reversible, truss-designed for heavy loads. Accessories: Wheel and floor stands, power feeders, roller mounting, troughing attachment.

HYTROL Conveyor Co. INC.

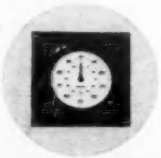
1965 S. 54th Street Milwaukee 19, Wis.

For more details circle NED-791 D8 on enclosed inquiry slip

precision timers ...by STANDARD TRADEMARK

Industry's preferred "instrument of a thousand uses". Accurate, rugged, versatile STANDARD Elapsed Time Indicators. Synchronous motor drive. Electric clutch controlled by manual or automatic switch or output of electronic tubes. Manual or electric zero reset. Units for flush panel mounting or portable use.

Model	Scale Divisions	Totalizes	Accuracy
S-100	1/5 sec.	6000 sec.	±.1 sec.
S-60	1/5 sec.	60 min.	±.1 sec.
SM-60	1/100 min.	60 min.	±.002 min.
S-10	1/10 sec.	1000 sec.	±.02 sec.
S-6	1/1000 min.	10 min.	±.0002 min.
S-1	1/100 sec.	60 sec.	±.01 sec.
MST	1/1000 sec.	.360 sec.	±.001 sec.
MST-500	1/1000 sec.	30 sec.	±.002 sec.



PANEL MOUNTED

PORTABLE

Request Bulletin No. 198.

THE STANDARD ELECTRIC TIME COMPANY

89 LOGAN STREET • SPRINGFIELD, MASS.

For more details circle NED-792 D8 on enclosed inquiry slip

REVCO Sub-Zero Chests

- for shrink fits
- for seasoning gauges and tools
- for testing • for research
- for processing to −140°

Model RSZ503 Rivet Cooler (shown) equipped with 90 rivet canisters, temperatures to −30° F. 110V, 60 cycle, single phase.

Model SZH153 with temperatures to −95° F. 110V; 60 cycle, single phase.

Model SZH653, larger capacity, temperatures to −85° F. 110V, 60 cycle, single phase.

Model SZHC657. Same capacity as SZH653 but attains temperature as low as −140° F. 220V, 60 cycle, single phase.

Refrigeration: Model SZHC657 operates with 3 Tecumseh hermetic compressors in a two system cascade. Other Sub-Zeros use 2 hermetics in a two stage system. Rivet Cooler operates with single hermetic unit. All models equipped with efficient fan-cooled condensers—no liquid coolant required. *Write Today for Full Specifications and Prices.*

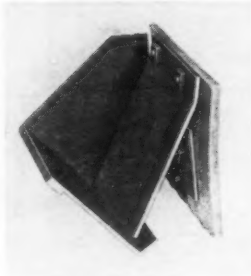
Description	Model	Cu.Ft.	Temp. Range Rm. 70°	Temp. Range Rm. 110°	Outside Dim. L	Outside Dim. W	Outside Dim. H	Inside Dim. L	Inside Dim. W	Inside Dim. H
Sub-Zero	SZH153	1.5	−95° F.	−85° F.	42"	28"	42¾"	23"	9"	12½"
Sub-Zero	SZH653	6.5	−85° F.	−75° F.	60"	28"	42¾"	47"	15"	16"
Sub-Zero	SZHC657	6.5	−140° F.	−125° F.	60"	28"	42¾"	47"	15"	16"
Rivet Cooler	RSZ503	5.0	−30° F.	−20° F.	42"	28"	41"	30"	16"	18"

REVCO, Inc.

Setting Trends in Refrigeration since 1938 Deerfield, Michigan

For more details circle NED-793 D8 on enclosed inquiry slip

SELF-CLEANING BUCKETS
designed for elevator conveyors



Separately mounted stripper plate in the M-T-Matic self-cleaning elevator conveyor bucket prevents the building up of granular materials handled. As the plate mounting reaches the head pulley, it moves outward and causes built-up materials to be loosened. Thrust is from 2 to 3 in. The bucket discharges the dislodged load along with its regular contents. Made of steel plate, the buckets are easily installed on any belt elevator. Standard sizes are available, with or without a protective lip, for handling a wide variety of granular materials. Made by **Pekay Machine & Engineering Co.**, 861 N. Sangamon St., Chicago 22, Ill.

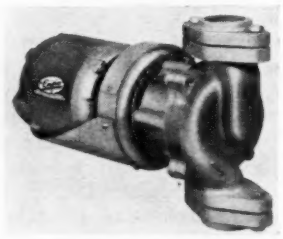
For more details circle NED-794 D8 on enclosed inquiry slip

WIRING HARNESS
standard and custom prefabrications

Plyo-Duct multiconductor film insulated flat wiring harness is available in standard parallel line arrangements and special custom patterns designed by the user. Standard type is offered on spools in 8 and 15 conductor sizes. Flat copper conductors are 0.0027 in. thick and 0.075 in. wide. Overall thickness is only 0.008 in. The 0.156-in. center-to-center spacing allows the harness to employ standard pin terminal printed circuit connectors. Standard insulation is polyester film, but a glass-reinforced, silicone plastic lamination for high temperature use is also offered. Made by **Methode Mfg. Corp.**, 7449 W. Wilson Ave., Chicago 31, Ill.

For more details circle NED-795 D8 on enclosed inquiry slip

BOOSTER PUMP
redesigned for noiseless operation



With motor separate from pumping unit and mounted in rubber, the Enpo booster pump is noiseless in operation. The lightweight, compact pump can be horizontally or vertically installed. Usable for circulating hot or chilled water, pump is offered in capacities to about 50 gpm at heads to 12 ft. Bodies are iron or bronze, and impellers are bronze. Automatic overload protector prevents low voltage or overheating burnouts. Made by **Piqua Machine & Mfg. Co.**, Young & College Streets, Piqua, Ohio.

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Here's a simple, economical solution to many troublesome leaking joint problems. Leak Lock holds LP, gasoline, oils, gases, petro-chemicals and refrigerants that eat through ordinary joint compounds. Its remarkably tough, highly adhesive, remains flexible indefinitely . . . the joint compound that stretches rather than breaks. Years of use have established its advantages in stopping wasteful or hazardous leaks in the petroleum, chemical, atomic energy, electronic, refrigeration and other fields.

Approval by Underwriters' Laboratories for Gas and Oil Equipment List: Also for Propane and Butane.

FREE SAMPLE—Leak Lock is available in handy tubes and in cans. Write on your letterhead for sample tube.

HIGHSIDE CHEMICALS INCORPORATED

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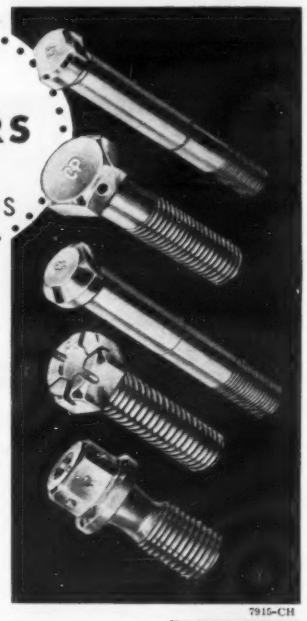

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O-KNI-CO MACHINE TOOL news

PRODUCTION FACTS THAT INCREASE YOUR PROFITS

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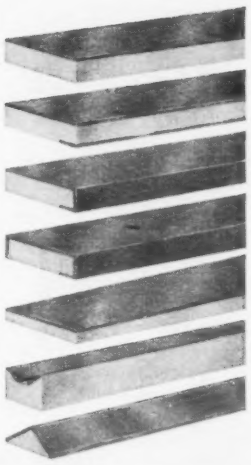
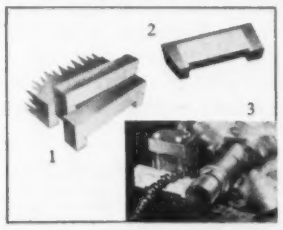
available in 7 standard cross sections in over sixty sizes.



By a time proven process, special analysis tool steel of any thickness is eternally bonded to a soft, tough, easily machinable steel, producing a superior way that will not warp or bow. Special O-KNI-CO hardening process (65-66 Rockwell C) to full depth of tool steel, along entire length of way, develops tremendous wear-resistant qualities, practically eliminating galling or scoring. The result is a continuing high degree of accuracy of the machine under even the severest work loads.

Gisholt Machine Company gives unique demonstration to prospective lathe buyers

Prospective lathe buyers witnessed an amazing demonstration of OK Bedway hardness at the Gisholt Machine Company, Madison, Wisconsin. Gisholt uses OK Ways exclusively on their ram and saddle turret lathes. To prove their quality they (1) took a section from an OK Bedway, (2) made it into a tool bit, (3) locked it in a fixture and cut spiral shavings from 1045 cold-rolled steel.



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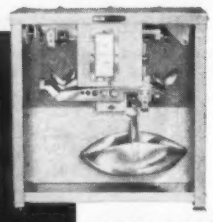
A LOW COST *Electric* DOUBLE RATIO COUNTING SCALE



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PENNOGRAPH
5 lb. capacity
Ratios: 99:1 and 9:1
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For counting extremely small parts in predetermined or unknown quantities, the new Model C-500 is the most economical scale on the market. Scale features new optical projection indication system, lightening fast action and interchangeable parts for either 200 milligram or 500 milligram sensitivities.

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Pennsylvania Scale Company, Bareville, Pa.

FREE BOOKLET
Don't let hand counting or incorrect counting scales waste your money. Write for copy of "Counting Scale Cost Savings Report" . . . explains procedures and gives valuable tips.

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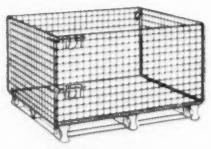
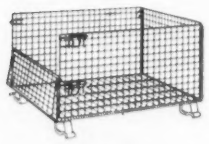
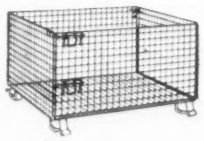
2,000 — 4,000 — 6,000 lbs.
Capacities



Bearing Plate
2,000 — 4,000 — 6,000 lbs.
Capacities



Warehouse
3,000 — 4,000 lbs.
Capacities



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2,000 — 4,000 — 6,000 lbs.
Capacities

Interested in getting more out of your materials handling dollars? Then send for your copy of Union Steel's big, well illustrated Palletainer catalog.

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Name _____ *Title* _____
Company _____
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Please have your nearest Palletainer representative contact me ☐

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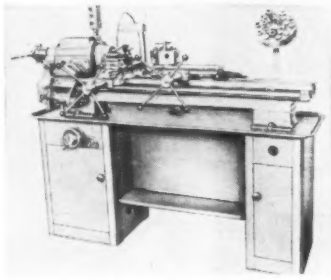
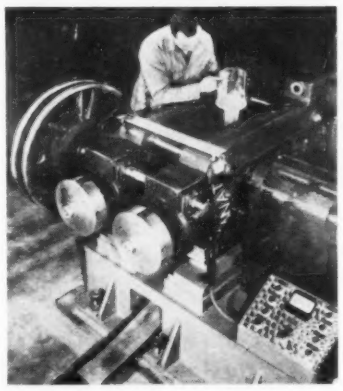
METAL LATHE ACCESSORIES broaden production range of machine



Accessories introduced to broaden the production range of the standard 11-in. Delta metalworking lathe include a double tool post cross slide, collet closer, and gear train and splash guards. A pilot wheel feed in the double tool post cross slide provides rapid movement with an 8-in. travel. It also has extra clearance for die heads, box tools, and other accessories held in the bed turret. Universal tool positioning is possible, and micrometer stops can be used. The lever type ball-bearing collet closer has adjustment feature to assure concentric operation without whipping or vibration. Two-piece guard for the outboard gear train affords easy access, while the spindle nose splash guard protects the operator from chips and coolant. Made by **Rockwell Mfg. Co.**, Delta Power Tool Div., 481 N. Lexington Ave., Pittsburgh 8, Pa.

▲ For more details circle NED-803 D8 on enclosed inquiry slip ▲

METAL POWDER ROLLING MILL produces sheet and strip up to 7-in. wide from various metal powders

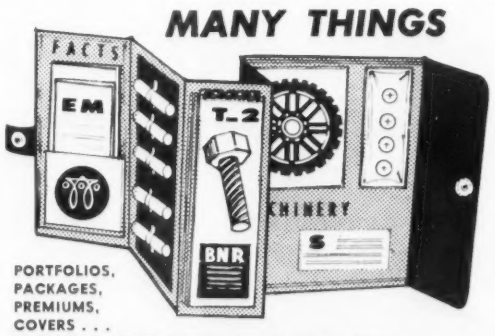


Aluminum, stainless steel, molybdenum, and tungsten are among the ferrous and nonferrous metal powders that are compacted directly into sheet and strip by the Model TAH-625 horizontal rolling mill. Widths up to 7 in. and thicknesses from 1/32 to 1/8 in. are produced, depending on the powder being processed. Substitution of wider and larger diameter rolls increases the sheet widths to 11 in. and also increases thicknesses.

The mill, which is convertible to a vertical two-high/four-high combination mill, can be used for hot and cold rolling operations. High temperature resistant rolls with electric cartridge heater elements can be supplied. Laminations can be produced by directing streams of dissimilar powders into the roll gap. Impregnation of cloth with powder is also possible. Metal powders compacted into a strip must be sintered in a protective atmosphere in most cases, then rerolled. Made by **Stanat Mfg. Co.**, 500 Shames Dr., Westbury, N. Y.

▲ For more details circle NED-804 D8 on enclosed inquiry slip ▲

MANY THINGS



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for dependable service in miniaturized precision-instrument components

such as high-ohmage resistors • voltmeter and wattmeter multipliers • resistance boxes and bridges • and other precision wire-wound electrical components.

Insulations include the conventional enameled and served types, of cotton, nylon and Fibreglas — plus HYDI, our own new silicone-base film type for continuous service at 190°C, intermittent service to 204°C.

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Write for literature on Jelliff 800 — and other standard alloys, including Jelliff 45, 180, 90, 60 and 30 for measuring and control instruments, and Jelliff A, C and K for heating elements. Ask for Catalog 11.

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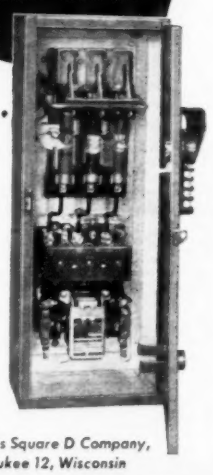
for GREATER SAFETY & LONGER STARTER LIFE

THIS SQUARE D *COMBINATION STARTER...*



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Square D's Switch gives you no less than eight design features which provide plus performance and operator safety.

Square D's Starter design provides quicker, easier maintenance and exceptionally long life.

Write for Bulletin 8538. Address Square D Company, 4041 N. Richards Street, Milwaukee 12, Wisconsin

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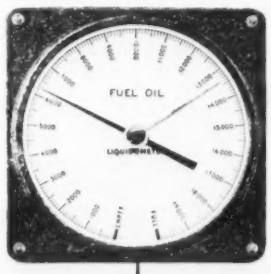

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Dependable remote reading tank contents gauges using a closed hydraulic transmission system. No power required.

Several sizes available. Approved by Underwriters Laboratories and Factory Mutual. UL approved switches.

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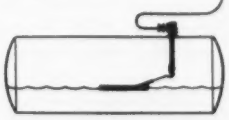

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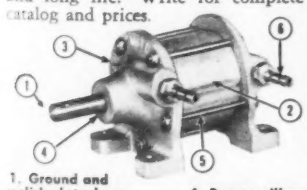
Low Cost... Compact... Powerful... Rugged

AIR-MITE Cylinders—made in single or double acting series—in 4 mounting types, are high quality cylinders at a low price. Simple, rugged design and compact construction give them long life, permit easy mounting on jigs, fixtures, tools, or machines. Used wherever power holding, pushing, pulling or lifting is required, AIR-MITE cylinders will meet your most exacting standards of dependability and long life. Write for complete catalog and prices.



1. Ground and polished steel ram
2. Brass, true-bore cylinders
3. High strength aluminum alloy cylinder heads
4. Bronze oilless ram bushing
5. Five steel tie rods
6. Brass hose stems

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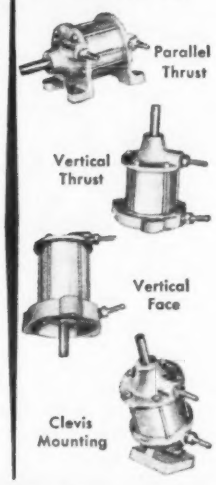

AIR-MITE Devices, Inc.
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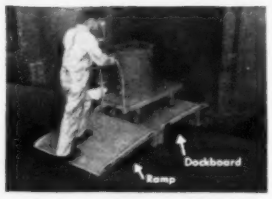
One-man, "do-it-yourself" handling equipment!

Every Magcoa Dockboard is designed for one-man, "do-it-yourself" handling . . . to help you eliminate both waiting time and lifting injuries.



Ramp-Dockboard combinations—Low dock, high truck problem solved with combination Ramp and Dockboard sections . . . *and each can be moved by one man.*

—**And Yard Ramps** for trailer and rail loading from ground level; *moved and positioned by one man.*

A booklet showing many dock problems *and solutions* is available free. Ask for "Problem Dock" bulletin #14.

MAGNESIUM COMPANY OF AMERICA magcoa
MATERIALS HANDLING DIV. • EAST CHICAGO 6, IND.
IN CANADA: MAGCOA LTD. • TORONTO, ONTARIO

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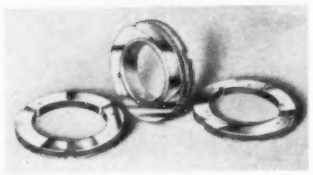
PACKING & SCRAPER RINGS for air and gas compressors



Improved finish of packing and scraper rings used in floating metal packing for compressors handling air and industrial gases results in optimum sealing over a broad range of applications. Finish of annular surfaces is less than 10 microinches, as compared with previous 30 to 40-microinch finish. Rings are also flat within light band readings. Made by **Garlock Packing Co.**, Dept. NED, 418 Main St., Palmyra, N. Y.

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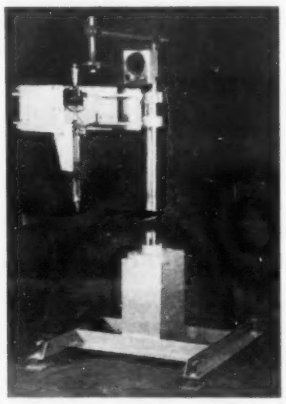
FLAME CUTTING MACHINE cuts irregularly shaped parts



Easily prepared template of Masonite or sheet metal guides the cutting torch of this flame cutting machine, used to cut irregularly - shaped parts from steel plate. It cuts ¼-in. steel plate at 24 in. per min or 2-in. plate at 10 in. per min. Tracing head is driven through a variable speed, gearhead motor with a wide range of cutting speeds. Torch equipment for natural, propane, or acetylene gas can be supplied. Made by **Speedi-Burn Products Co.**, Dept. ND-34, 534 Linden St., West Hempstead, N. Y.

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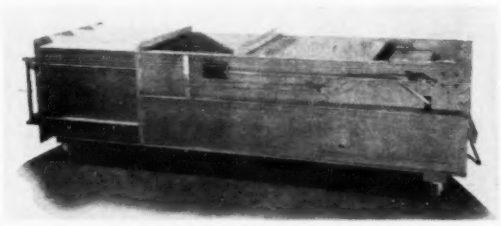
BALING PRESS handles cloth and paper products

Bales measuring 24 x 30 x 30 in. and weighing up to 350 lb are formed of paper, linen, cloth, and other products with this Lake Baler. Materials are fed into



it through a large hopper. Machine is mounted on casters for portability, and the hydraulic power system is driven by a 3-hp motor. Controls are designed for safe, one-man operation. Finished bales are tied with twine semiautomatically, and are ejected automatically from the press. Distributed by **Lake Engineering Sales Co.**, 310 Gostlin St., Hammond, Ind.

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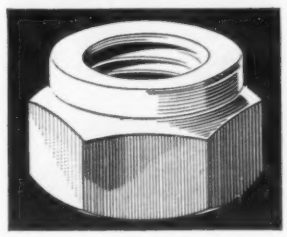
Specify standard FLEXLOC® microsize locknuts



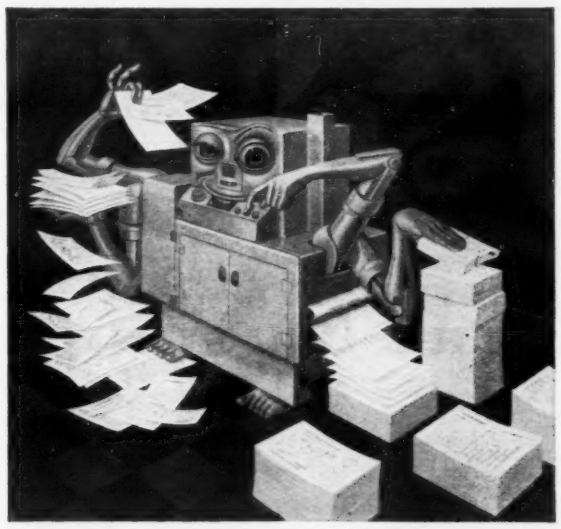
- One-piece, all-metal construction
- Resilient locking section
- Controlled locking torque
- Lock and stop nut in one
- Every thread carries its full share of the load
- Made to Class 3B fit

Smaller than regular FLEXLOCs of the same nominal diameter, FLEXLOC microsize locknuts make possible smaller mating joints and flanges. Standard materials are brass (plain or cadmium plated) and aluminum (plain or chemically treated), for temperatures to 250°F; alloy steel and 18-8 stainless steel, for temperatures to 550°F. They are available in sizes #0 through #4 at your industrial distributor's. See him for details. Or write for literature, samples, information on other materials. Flexloc Locknut Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

STANDARD PRESSED STEEL CO.
FLEXLOC® LOCKNUT DIVISION SPS
JENKINTOWN PENNSYLVANIA

▲ For more details circle NED-815 D8 on enclosed inquiry slip ▲

thanks to automatic xerography



Push the button and copies flow!

Here, as caricatured by Artzybasheff, is the mighty Copyflo® continuous printer—*automatic*, push-button xerography at its brilliant best—whose enormous appetite for volume copy problems is matched only by its speed, versatility, and high quality of output.

Wherever low-cost, volume copying is the need, look to automatic xerography for the happy solution. Copyflo printers turn out *dry*, positive prints up to 11 or 24 inches wide (depending on model), ready for immediate use. Copies emerge at the rate of 20 feet a minute, an 8½" x 11" print in less than three seconds.

Copyflo continuous printers enlarge, reduce, or copy size to size. They offer the speediest, most flexible, most economical way to get copies precisely like the original from microfilm or original documents.

WRITE for further information about the Copyflo continuous printer—the new dimension in copying from originals or microfilm.

THE HALOID COMPANY
58-213X Haloid Street, Rochester 3, N. Y.
BRANCH OFFICES IN PRINCIPAL U. S. AND CANADIAN CITIES
HALOID XEROX®

▲ For more details circle NED-816 D8 on enclosed inquiry slip ▲

For $73.00 *Or Less**... You get the same convenience that used to cost hundreds of dollars!

SUNROC

COOLER-HOT

PATENTS PENDING

COOLER-HOT is safe, sanitary, and low cost. It *instantly* dispenses just-right hot water for up to 60 cups per hour. Grey, hammertone enamel cabinet is a compact 31" x 10" x 7", and has attractive stainless steel base and top with chrome plated glass filler.

INSTANT HOT DRINKS
inside your plant and office

- Eliminates the need for costly, combination, hot and cold coolers!
- Easily connects to inlet water line of any make pressure cooler, or to ordinary water outlet!

*ONLY $55.50, f.o.b. Glen Riddle, Pa., if ordered with any standard Sunroc Cooler.

LIST PRICE $73.00, f.o.b. Glen Riddle, Pa.

SUNROC FILTER-PAK®
. . . another cost-saver!

Only 10½" high, this compact filter/purifier removes bad taste, odor, and color from drinking water.

Small in size and price—FILTER-PAK out-performs units costing up to four times more!

Furnished with mounting bracket for easy connection. LIST PRICE, *ONLY* $19.50 f.o.b. Glen Riddle, Pa.

SUNROC CORPORATION—Division M—Glen Riddle, Pa.
Check which and PLEASE PRINT
☐ Payment enclosed, plus applicable taxes, for
☐ COOLER-HOT ☐ FILTER-PAK
☐ Send literature on ☐ COOLER-HOT ☐ FILTER-PAK
NAME ..... TITLE .....
COMPANY .....
ADDRESS .....
CITY ..... STATE .....

ORDER NOW *or request literature*
IMMEDIATE DELIVERY ON PRE-PAID ORDERS

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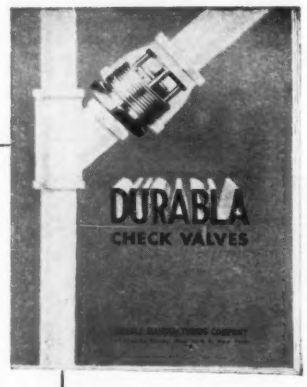
FACTUAL NEW BOOK



on a unique (use it anywhere) check valve

Combined with any standard pipe fitting, the DURABLA Basic Check Unit becomes a complete check valve—for almost any service. *It operates perfectly in any position...handles any liquid, gas or air.*

For the full story on these versatile valves, send for a free copy of this *new* booklet. Includes typical applications, construction details, table of sizes and weights, etc. Ask for Form 300 NED48.

DURABLA MANUFACTURING COMPANY
114 Liberty Street, New York 6, N. Y.

DURABLA®

Patent No. 2,649,277 DM-28

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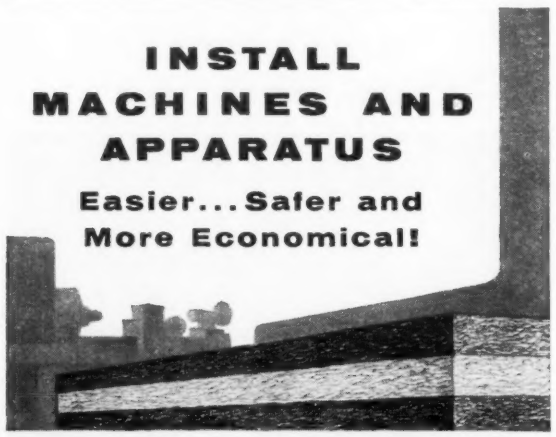
INSTALL MACHINES AND APPARATUS

Easier...Safer and More Economical!



TRY UNISORB

No bolts or lagscrews needed. Cement holds machine firmly — no walking; eliminates up to 85% transmitted vibration, reduces noise. Machines run smoother and more accurately. The right density and thickness for every machine.

Send for Special Trial Offer! Tell us what machine you want to try on Unisorb — we'll send sample kit. If you're not satisfied, return within 30 days and we'll cancel invoice.

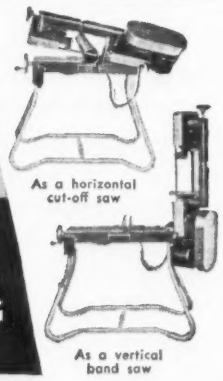
Use your letterhead please.

WANT MORE INFORMATION?
Unisorb "Facts Folder" tells how companies have saved money. Send Reader Service Card, today.

UNISORB
THE FELTERS COMPANY
224 SOUTH ST., BOSTON 11, MASS.
MANUFACTURERS OF FELT AND FELT PRODUCTS.

▲ For more details circle **NED-818 D8** on enclosed inquiry slip ▲

You CAN take it with you ... or use it in the shop



THE VERSATILE WELLS 49A METAL CUTTING BAND SAW

Use the Wells 49A in the shop, or take it to the "job-site"—you'll find it an efficient tool—a time and money saver on a wide variety of metal cutting jobs.

As a horizontal cut-off tool it has a capacity of 3½" x 6". One easy motion converts it to a vertical band saw. No tools required! Just swing the head into upright position—it's ready to use. Cut angles, slots, do light contour work.

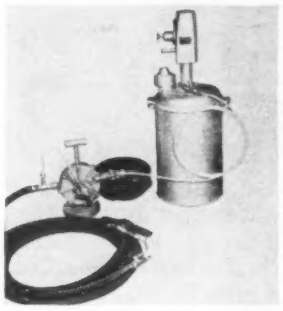
Get TWO saws for the price of ONE! Write for complete information.

Wells

The Pioneers of Horizontal
METAL CUTTING BAND SAWS
1313 Harding Street
Three Rivers, Mich.

▲ For more details circle **NED-819 D8** on enclosed inquiry slip ▲

AIRLESS PAINT SPRAYER
unit uses hydraulic atomization



Compact, portable Flexaflo HydraAirless paint sprayer uses hydraulic atomization, forcing viscosity - controlled paints through a special orifice at high pressure. The desired atomization is achieved through control of pressure, viscosity, and orifice. Unit consists of a controller which raises the temperature of the material to the desired level, and an explosionproof hose assembly with integral, flexible heaters which maintain the temperature until it reaches the gun. Materials are supplied by a simple reciprocating pump from original 5 or 55-gal containers. The air-operated pump uses less than 1 cfm and is served by a compressor as small as ¼ hp. Hose can be as long as necessary. Made by **Spee-Flo Co.**, Dept. NED, 720 Polk, Houston 2, Tex.

▲ For more details circle **NED-820 D8** on enclosed inquiry slip ▲

ULTRASONIC GAGE
measures thickness, detects flaws, and energizes alarms or sorters

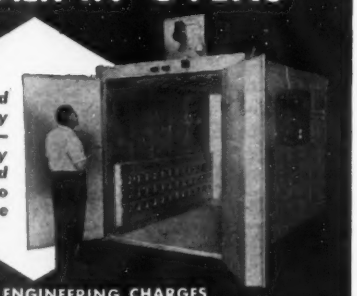
Thickness gaging, recording, laminar flaw detection, and automatic sorting and rejection are applications for the rack-mounted Model R Vidigage. The ultrasonic instrument consists of resonance gaging and indicating circuitry, strip chart recorder, gating and alarm circuits, and calibration control.

Thickness of glass, metals, and plastics between 0.005 and 2.5 in. can be measured by applying a transducer to one side of the work and reading the thickness indication on the screen and/or chart. The strip chart recorder clearly shows thickness changes that are barely visible on the screen. Gating and alarm circuit trips a relay when a part reaches predetermined dimensional limits, energizing audible or visible alarms, marking devices, or sorting attachments.

The calibration checker produces up to eight separate pips on the cathode screen and marker lines on the recording paper. The 225-lb, 24 x 24 x 68-in. gage operates on 100-130 v ac, 60 cycles. Made by **Branson Instruments, Inc.**, Dept. NED, 40 Brown House Rd., Stamford, Conn.

▲ For more details circle **NED-821 D8** on enclosed inquiry slip ▲

SAVE INSTALLATION TIME with GRIEVE-HENDRY WALK-IN OVENS



• Shipped completely "Set-Up"—Previously Tested and ready to operate

6 STANDARD MODELS NO ENGINEERING CHARGES

Save time and money by buying Grieve-Hendry STANDARD WALK-IN OVENS.
Shipped promptly at lower cost because they have been engineered to standards, thereby saving time and extra engineering charges.
Shipped set-up — ready to work — just uncrate and make service connections to outlets provided — no installation crew or tie-up in your plant necessary.
Latest convenience features and safety devices included. Design changes to suit special requirements. Electric, gas or oil heated. Write for bulletin.

- Prompt quotations on ovens to your specifications.
- Standard models to 1200° F.-$110.50 and up.
- Sales engineers in all principal cities and many foreign countries.

GRIEVE-HENDRY CO., INC.
1408 W. Carroll Ave., Chicago 7, Ill.
Export Dept., 10406 S. Western Ave., Chicago 43, Illinois

▲ For more details circle **NED-822 D8** on enclosed inquiry slip ▲

CONTROLLED POURING

OF
ACIDS
CAUSTICS
PLASTICS
VISCOSE MATERIALS

with the Model CP-1 Sterling Hydraulic Drum Lift. Be assured of self-locking and absolute control at any pouring angle.

Lifting capacity 750 lbs. Lifting height 72". For complete details and specification on the CP-1 model and other model Sterling Hydraulic Drum Lifts, write:

STERLING, FLEISCHMAN COMPANY
P. O. BOX 94 BROOMALL, PA.

▲ For more details circle **NED-823 D8** on enclosed inquiry slip ▲

DO MORE WORK-FASTER

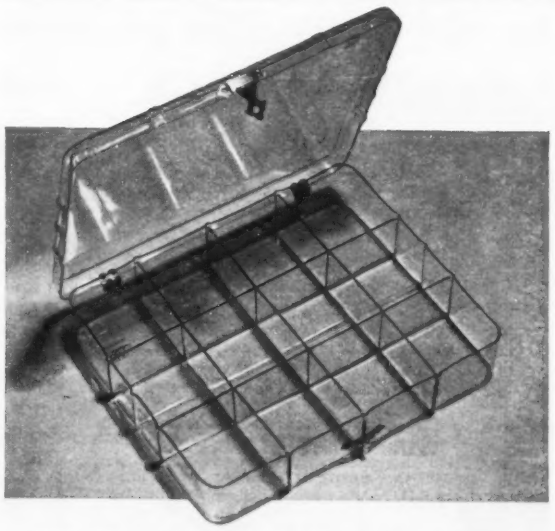
with
MODEL "E" SPACEMASTER ELECTRIC FORK TRUCKS

"Step on and GO!" . . . it's as fast and simple as that to put a Model "E" Spacemaster into action. No warm-ups, no gas-ups and no wasteful idling between jobs. Spacemaster is ideal for stop-and-go . . . on-and-off operation.

Features include: FAST LIFT Fingertip operation . . . STANDRIVE for easy "on and off" . . . maximum visibility in forward or reverse operation. EASY TO REVERSE Dynamic Braking for smooth, even stops plus Controlled Plugging for instantaneous and smooth reversal of direction. Write today for free copy of Catalog No. 32-1 on all L-S Model "E" Spacemaster Electric Fork Trucks.

LEWIS-SHEPARD®
174 Walnut Street • Watertown 72, Mass.

▲ For more details circle **NED-824 D8** on enclosed inquiry slip ▲



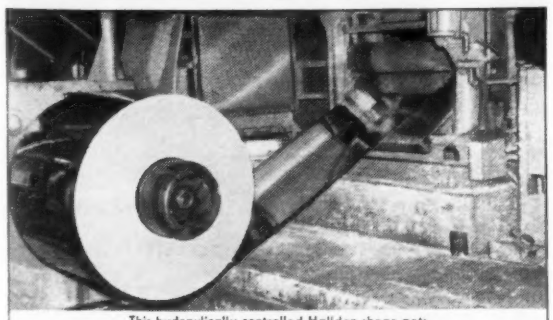
HIGH VISIBILITY—RUGGED CONSTRUCTION

Lite-TUFF boxes are made from clear, rugged Tenite II and have stainless steel hinges. Standard boxes available in many sizes and compartment arrangements. Uses innumerable!

Send for Plot Plan Sheets which show specifications of Standard Boxes.

SHOE FORM CO. INC.
Auburn, New York

▲ For more details circle **NED-825 D8** on enclosed inquiry slip ▲



This hydraulically controlled Hallden shear gets long service from Aeroquip 1509 Hose Lines

Kaiser Steel Mill Uses Aeroquip Hose Lines

Fontana, California Strip Mill Has Flexible Hose Lines On All Hydraulic Systems

Flexible hose lines withstand shock and vibration, giving longer service life on equipment subject to these strains. At Kaiser Steel Corporation's Fontana, California strip mill, Aeroquip Flexible Hose Lines are used on all hydraulic systems. A minimum inventory of Aeroquip Bulk Hose and Reusable Fittings meets Kaiser's wide range of size and pressure requirements.

Simplify your fluid line maintenance the Aeroquip way. Use Aeroquip Hose and Reusable Fittings to make all replacement lines as you need them, right in your plant. Call the Aeroquip Distributor listed in your Yellow Page Phone Book for details on this time and money-saving idea.

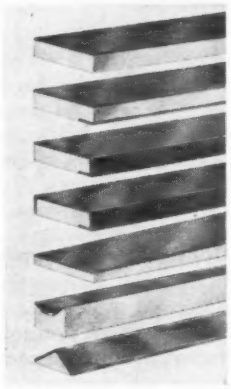
Aeroquip

AEROQUIP CORPORATION, JACKSON, MICHIGAN
INDUSTRIAL DIVISION, VAN WERT, OHIO • WESTERN DIVISION, BURBANK, CALIFORNIA • AEROQUIP (CANADA) LTD., TORONTO 19, ONTARIO
AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD

▲ For more details circle NED-826 D8 on enclosed inquiry slip ▲

New Processes and Materials

HARDENED WAYS stocked for quick shipment



Seven different cross sections in over 60 sizes of standard hardened ways are available for 10 to 30-day delivery. One-day service is offered on O-Kni-Co standard aluminum bronze slides, shipped in bar lengths or cut to requirements. Hardness of 65-66 Rockwell C is uniform to the full depth of the tool steel along the entire length. The tool steel is bonded to a soft, tough, easily machinable base that will not warp or bow. Made by **Ohio Knife Co.**, Dept. H-75, Dreman Ave., Cincinnati 23, Ohio.

▲ For more details circle NED-828 D8 on enclosed inquiry slip ▲

CLEANER-DEGREASER is fireproof spray-type liquid

Suited for such uses as removing grease from machinery, cleaning windows, taking grease and grime off of floors, and degreasing metals, Spray 66 is an all-purpose fireproof cleaner and degreaser. It will absorb, emulsify, and float away greases and oils, and will also remove stubborn waxes, gums, and dyes. It is harmless to skin, nontoxic, and has a pleasant odor. It is available in 5 to 55-gal containers from **Peck's Products Co.**, Dept. S.S., 610 E. Clarence Ave., St. Louis 15, Mo.

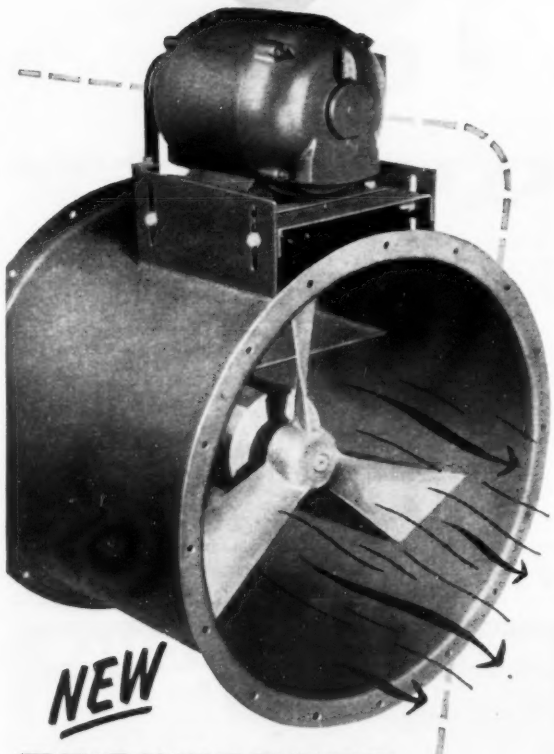
▲ For more details circle NED-829 D8 on enclosed inquiry slip ▲

FLOOR ENAMEL resists chemicals and scuffing

Granitite synthetic resin base enamel for heavily traveled wood and concrete floors is resistant to oils, greases, solvents, and mild industrial acids. Spilled liquids cannot penetrate its surface. It withstands scuffing, pounding, and abrasive action of heavy foot traffic and is unaffected by repeated scrubbings with strong caustic cleansers and floor cleaning machines. Applied by brush, roller, or spray, the finish is offered in five colors in 1, 5, and 55-gal containers. Made by **Garland Co.**, Dept. C-62, 3748 E. 91st St., Cleveland 5, Ohio.

▲ For more details circle NED-830 D8 on enclosed inquiry slip ▲

expel
FUMES, HEAT AND DUST at LOW COST



NEW
PROPELLAIR®
belt driven Tubeaxial Fans

Type "BT" Propellair Fans can be purchased and operated at low cost to handle difficult atmospheres such as highly corrosive, explosive, inflammable, grease or dust-laden air. Straight-line design permits easy, inexpensive installation. Platforms and duct elbows are eliminated. The externally mounted Robbins & Myers motor, sealed cast iron housed bearing assembly, air-tight drum and belt-tube provide complete protection. Standard models can handle temperatures up to 450° F. Propellair "BT" tubeaxial fans are available in sizes 16" to 60" for from 2000 to 85000 CFM air delivery.

WRITE FOR BULLETIN NO. 620-N

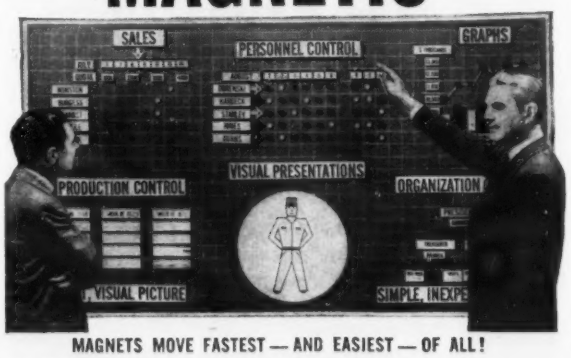
R&M PROPELLAIR®
DIV. OF ROBBINS AND MYERS, INC.
SPRINGFIELD, OHIO
Certified Ratings PFMA

MAN COOLER · SKY-BLAST · VANEAXIAL · EXTENDED SHAFT

MOVING AIR IS OUR BUSINESS

▲ For more details circle NED-827 D8 on enclosed inquiry slip ▲

VISUAL **MAGNETIC** CONTROL



MAGNETS MOVE FASTEST — AND EASIEST — OF ALL!

SIMPLEST VISUAL SYSTEM FOR
- Production
- Personnel
- Sales
- Maintenance
- Scheduling
- Machine Loading
- Charts—Graphs
- Visual Presentations

COLORFUL MAGNETIC ELEMENTS
- show facts instantly
- organize for action
- eliminate mistakes
- get the job done

PRICED FROM $38 INCLUDING MAGNETIC ELEMENTS

PRICE LIST & BROCHURE NE4 FREE ON REQUEST

REPRESENTATION DESIRED IN SOME AREAS
Methods Research Corp.
442 Mosel Avenue, Staten Island 4, New York

▲ For more details circle NED-831 D8 on enclosed inquiry slip ▲

"FIGHT" ALL FIVE!
WITH
Markal Paintstik MARKERS!

PERMANENT—FADEPROOF —WEATHERPROOF

Marks remain visible under any extremes of heat up to 2100°F. or cold down to —50°F. and under any weather conditions. Marks stay on until *you* want them off.

Free Sample Paintstik; state your marking conditions.

MARKAL COMPANY
3053 West Carroll Avenue
Chicago 12, Illinois

▲ For more details circle NED-832 D8 on enclosed inquiry slip ▲

It's what's **IN** these wheels
That brings **OUT** big, new time-savings

A COMPLETELY NEW SLANT ON ABRASIVE APPLICATIONS

Multi-Use Brightboy gives you a *definitely, different working action,* with *abrasive and rubber functioning simultaneously.* BURNING, FINISHING, CLEANING, POLISHING, frequently in a single step, time saving operation.

Brightboy stock numbers are "job-matched" to your work—to your usual and special finishing. Silicon Carbide and Aluminum Oxide grains. Each in grades from extra fine to extra coarse, in soft, firm and tough rubber binders.

ASK YOUR DEALER to recommend the Brightboy numbers for your needs, and for the Brightboy catalog listing applications and machine speeds. Ask him or write us for *"Notes From The Brightboy Service Engineer,"* an informal news letter describing Brightboy applications reported by our service engineers.

Write for FREE SAMPLE BRIGHTBOY HAND PIECE for quick-job cleaning

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 North 13th Street
Newark 7, N. J.
America's Pioneer Manufacturer of Rubber-Bonded Abrasives

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MOST IMPORTANT IN CYLINDERS
DELIVERY ★ 24 HOURS
AND
DESIGN

Rugged, Leakproof, and 40% Savings in Space

Send For Complete Catalog File
All essential ordering details and specifications on the Carter line of cylinders and valves.

CARTER CYLINDERS

PHONE: BAyport 1-7186 (Chicago)
CARTER CONTROLS INCORPORATED
2876 Bernice Road, Lansing, Illinois (Chicago Suburb)
AIR CYLINDERS • HYDRAULIC CYLINDERS • AIR VALVES
ROTARY ACTUATORS • SPECIAL CONTROLS

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LEARN HOW OTHERS ARE DOING IT NOW

You will see how other people use ram — rotary — roll benders in their plants. 36 pages written *in layman's language* . . . with in-plant pictures. Also letters from users.

Write today for your free copy

WALLACE SUPPLIES MFG. CO.
1312 W. WOLFRAM ST. • CHICAGO 13, ILLINOIS

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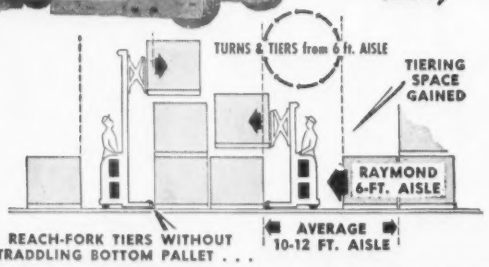
The truck with "boarding house reach"
INCREASES WAREHOUSE CAPACITY
as much as 50%

RAYMOND

Reach-Fork
TRADE MARK
ELECTRIC TIERING TRUCK
2000 or 3000 lb. capacities

Why build or lease additional storage when there's space to be had right in your present warehouse? The RAYMOND Reach-Fork eliminates wasteful 10 to 12-ft. aisles . . . permits you to tier in space-saving aisles as narrow as 6 ft. No special racks or pallets required because it operates from the aisle, without straddling bottom pallet. Forks extend to pick up or deposit your load . . . retract in seconds. Ideal for loading or unloading. Stacks pallets closely on racks, in truck trailers, boxcars, bulk storage areas. Safe on elevators and low-capacity floors.

Mail coupon today



The RAYMOND CORPORATION
4132 Madison St., Greene, N.Y.

Please send Bulletin on Raymond Reach-Fork. I am interested in:
☐ 2,000 lb. cap. Reach-Fork
☐ 3,000 lb. cap. Reach-Fork.
☐ Have a representative call.

NAME TITLE
COMPANY
STREET
CITY STATE

▲ For more details circle NED-836 D8 on enclosed inquiry slip ▲

New Literature and Catalogs

Self-Drilling Masonry Fasteners

Phillips Drill Co.—18 x 24-in. metal-reinforced wall chart contains actual-size illustrations of snap-off end, rod hanger, tie wire, flush end, and stud anchor concrete fasteners. These units drill their own holes when driven by hand or with a power impact hammer. They hold securely when expanded and provide stud or bolt hole. Back of chart gives chuck recommendations for all makes of electric and pneumatic impact hammers.

▲ For more details circle NED-837 D8 on enclosed inquiry slip ▲

Controls for Temperature, Pressure, Level

Mercoid Corp.—60-page Catalog 858 is entitled "Mercoid Automatic Controls." Described are units for control of pressure, temperature, liquid level, and mechanical movement. Also presented are data on relays and magnetic and tilting type mercury switches.

▲ For more details circle NED-838 D8 on enclosed inquiry slip ▲

Offset Vacuum Cleaners

Kent Co.—Revised 50-page catalog on commercial vacuum cleaners describes Kent's nine offset machines and two new additions to the line, the Viking and the Kent Lightning. First of the new units handles dry cleaning applications, whereas the latter is a lightweight, easily portable machine for the lighter cleaning jobs. Other machines featured by company for both wet and dry cleaning are descriptively covered.

▲ For more details circle NED-839 D8 on enclosed inquiry slip ▲

Boring & Reaming Tools

Maxwell Industries, Inc.—Precision tools for boring, reaming, recessing, and form work, as well as gages, are described in 22-page bulletin. Tools feature vernier setting, and a size range from 5/8 to 6-in. OD.

▲ For more details circle NED-840 D8 on enclosed inquiry slip ▲

Optical Parts

Bausch & Lomb Optical Co.—Optical parts Catalog L-117 contains information on a full line of unmounted optical parts, including lenses, prisms, and reflectors. One section details quartz and special optical components. Latest price list is included to aid in ordering.

▲ For more details circle NED-841 D8 on enclosed inquiry slip ▲

Steel Shelving for Every Shop Need

De Luxe Metal Furniture Co.—"Steel Shelving" is title of comprehensive Catalog No. 30 which describes storage shelving, shop equipment, vertical files, and storage cabinets. Construction features, typical uses in industry, and complete specifications on various sizes and types in each category are covered.

▲ For more details circle NED-842 D8 on enclosed inquiry slip ▲

LUNKENHEIMER OILERS

Automatic protection against bearing damage!

Fig. 1300 Sight Feed Oil Cup

Fig. 1834 Constant Level Oil Control

Fig. 1815 Globe Body Bottle Oiler

Lunkenheimer Oilers take the guesswork out of bearing protection because they feed automatically. Oil flow is regulated to prevent over-supply, leakage, and oil splatter. And there's a Lunkenheimer oiling device for every purpose—bottle oilers for plain bearings . . . constant level controls for ring-oil bearings. For details and literature, write the Lunkenheimer Co., Box 360, Cincinnati 14, Ohio.

L-956-12

LUNKENHEIMER®
THE ONE *Great* NAME IN VALVES

▲ For more details circle NED-843 D8 on enclosed inquiry slip ▲

PACE CHEMICAL FEEDERS

remotely, automatically, in direct proportion
to flow rate
. . . with Builders-Providence
Chronoflo® Telemeters!!

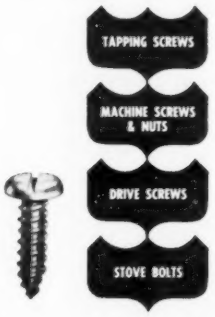
Pace liquid or dry chemical samplers or feeders, in single or multiple arrangements, with performance-proved Chronoflo Telemeters which offer:

- **Unlimited Distance Operation**
- **Transmission Choice**
- **High Accuracy**
- **Extra Wide Range**
- **System Expansion Ease**

FREE BULLETIN 230-P4 gives complete data. Write today! **Builders-Providence, Inc., 425 Harris Avenue, Providence 1, Rhode Island.**

BUILDERS-PROVIDENCE
DIVISION OF
B-I-F INDUSTRIES METERS FEEDERS CONTROLS

▲ For more details circle NED-844 D8 on enclosed inquiry slip ▲



IN FASTENERS SOUTHERN IS

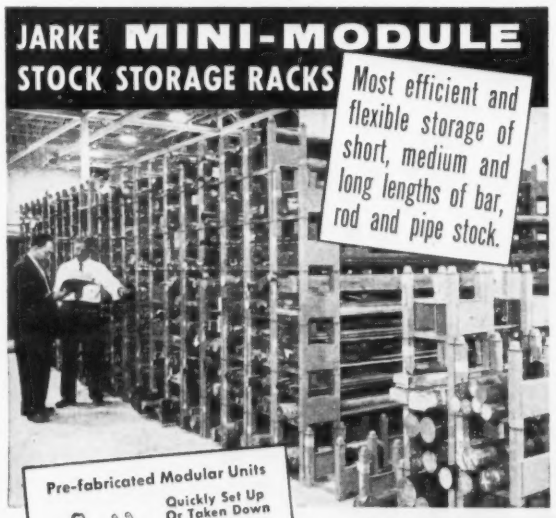
quality

There are no better fasteners than USA-made Southern Screws. Over a billion in stock, available from our warehouses in New York, Chicago, Dallas and Los Angeles . . . Let us quote Southern *quality* screw prices on your requirements. Compare with the cost of conventional screws. Address: Southern Screw Company, P. O. Box 1360, Statesville, N.C.

Southern SCREW COMPANY

▲ For more details circle NED-845 D8 on enclosed inquiry slip ▲

JARKE MINI-MODULE STOCK STORAGE RACKS



Pre-fabricated Modular Units
Quickly Set Up Or Taken Down By One Man
No Bolts No Tools • Light Weight

Special nesting caps permit fast no-slip stacking, rigid vertically-interlocked tiers. Stack them to fit your needs exactly. Heavy-duty tubular steel construction.

Send for details and FREE set of miniature plastic Mini-Modules for easy storage planning.

JARKE
MANUFACTURING COMPANY
6330 Howard St.
Niles 31, Illinois

BAR AND FLANGE RACKS • WIRE COIL RACKS • CRANE GRABS • STEELMOBILE

▲ For more details circle NED-846 D8 on enclosed inquiry slip ▲

NEW RE-ROOFING METHOD
cuts costs as much as 55%

A simplified process which saves up to 55% of the installation costs for new roofs is now available from The Monroe Company. Known as the Monroe VULCA-DEK system, this method eliminates the expense of removing old roofs and does away with heating of roof coating, hot mop applications and use of gravel. Fire danger is completely eliminated.

Key to the VULCA-DEK process is the use of 3 Monroe roofing products. Among these are Hold-Tite, an extremely adhesive sealing cement which "vulcanizes" new felt to the old roof surface, heavy-duty 53-lb. roofing felt and Siliconed Rufferseal.

Monroe Siliconed Rufferseal is spread over the repaired surface as the final step in the installation of the new built-up VULCA-DEK roof. It is composed of long fibre Canadian asbestos, imported and domestic asphalts and special penetrating oils. Siliconed Rufferseal, and a companion Monroe product, Siliconed Asbestolite, are the only roof coatings now compounded with silicones. Monroe Asbestolite, which can be used in the VULCA-DEK system instead of Rufferseal, contains pure metallic aluminum flakes in homogenous suspension. When the coating is applied, these flakes produce a brilliant, attractive aluminum roof.

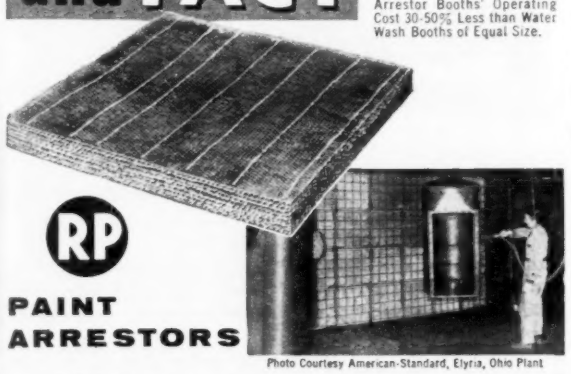
Monroe VULCA-DEK roofing specifications are adaptable to construction of both single-ply and 2-ply built-up roofs. Full details are given in Form No. 1090. **The Monroe Company, Inc., 10720 Quebec Avenue, Cleveland 6, Ohio.**

▲ For more details circle **NED-847 D8** on enclosed inquiry slip ▲

FICTION and FACT

FICTION: R P Paint Arrestor Equipped Booths Cost More than other Methods of Paint Overspray Removal.

FACT: Comparisons Show R P Paint Arrestor Booths' Operating Cost 30-50% Less than Water Wash Booths of Equal Size.



RP

PAINT ARRESTORS

Photo Courtesy American-Standard, Elyria, Ohio Plant

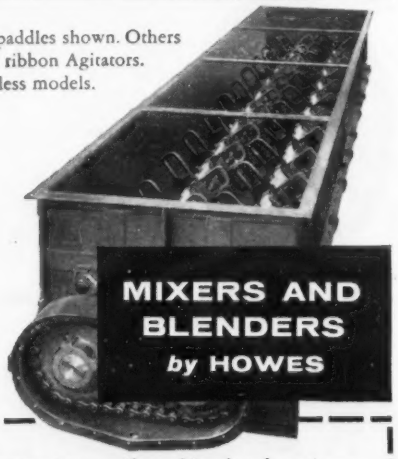
R P Paint Arrestors save money in other ways, too. Maintenance is simple—labor costs average 40 to 85% less than for equivalent water wash booths. Down-time is reduced considerably, production is increased, less floor space required. And, with all the savings, R P Paint Arrestors are more efficient—and adaptable to almost every type operation. Write for more information.

Products of Research

RESEARCH PRODUCTS *Corporation*
Dept. 32, Madison 10, Wis.

▲ For more details circle **NED-848 D8** on enclosed inquiry slip ▲

● New loop type paddles shown. Others with reverse-spiral ribbon Agitators. Also sanitary stainless models.



MIXERS AND BLENDERS by HOWES

For accurate, uniform blends of semi-wet or dry materials—for mixing dry with liquids—the Howes line offers cost-saving, exclusive features engineered for efficient, dependable operation.

Experienced assistance available to determine proper equipment for your needs. Write for literature or specialized information.

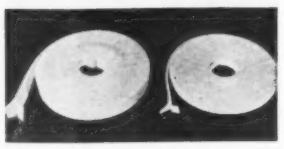
S. HOWES CO., INC.
Silver Creek, N. Y.
MANUFACTURING ENGINEERS

EUREKA Mixing, Sifting and Blending • Size Reduction • Screening • Weighing and Packing • Materials Handling • Cleaning and Grading **EQUIPMENT**

▲ For more details circle **NED-849 D8** on enclosed inquiry slip ▲

New Processes & Materials

PLASTIC FOAM TAPE
offered in 1/4 and 3/8-in. wide rolls



Tesamoll urethane plastic foam tape is backed with a pressure-sensitive adhesive which is protected by an easily-removed tissue. Standard widths of 1/2 and 3/8 in. are offered in rolls, but wider and thicker forms can be produced to specification. Tape will adhere to any dry, clean surface; is highly resilient; and recovers promptly when compressed. Air spaces developed during manufacture provide sound-deadening and heat and cold insulating properties. Tape is resistant to oils and most chemicals, and is waterproof. Offered in five colors, it can be painted to conform to color schemes. Uses include shock-proof mounts, electronic equipment and speaker mounts, gaskets, vibration absorbers, and cushioning. Made by **United Mineral & Chemical Corp.**, Dept. A, 16 Hudson St., New York, N. Y.

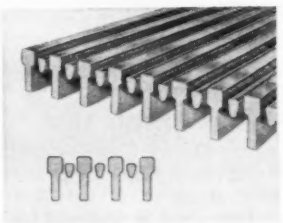
▲ For more details circle **NED-850 D8** on enclosed inquiry slip ▲

LEAD FOIL TAPE
for electroplating use

Masking off of parts which are not to be electroplated is primary use of EI 3879 pressure sensitive lead foil "stop-off" tape. Its polyethylene liner releases easily. The lead foil is combined with a pressure-sensitive adhesive to provide a positive bond and smooth, wrinkle-free backing. It is sufficiently soft to conform to various configurations. Tape is used in electroplating to prevent edge build-up on sharp corners, in chemical milling of metal parts, and in helicopters as antennas. Overall thickness is 6.0 mils, tensile strength is 18 lb per inch, and elongation is 10 to 12 per cent. Made by **Permacel-LePage's Inc.**, Dept. R, New Brunswick, N. J.

▲ For more details circle **NED-851 D8** on enclosed inquiry slip ▲

GUARD BAR SCREEN
for flumes or vibrator applications



Designated the T-Wedge, this preparation screen is especially usable in flumes or vibrator applications. The elimination of the actual guard bars increases the total screening surface. The high T-profile wire between every wedge-shaped wire acts both as a guard bar and screen. This retains the tolerances between the wires and insures long life. Independent flexing action of each wire contributes to screen's nonblinding, nonclogging performance. Screen is made of abrasion-resistant stainless steel by **Wedge-Wire Corp.**, Dept. M, Wellington, Ohio.

▲ For more details circle **NED-852 D8** on enclosed inquiry slip ▲

LOOK! Here's how Spirolox

RETAINING RINGS
Save You Time — Effort — Money!

- ✓ **Save you hours of machining — hours of assembly time! Easy in — easy out.**
- ✓ **Save you extra lock parts!**
- ✓ **Save you space — insures neater assemblies!**
- ✓ **Save you dead weight.**

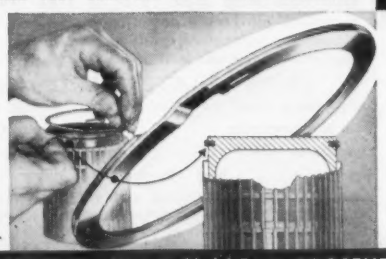
Spirolox has solved hundreds of industry's retaining problems, just like the Roll Lock Chucking Tool shown below—an external retaining application. Unique, 2-turn construction actually "fric-tion locks" Spirolox into groove. No more keys, pins, collars. Assembly was completed quicker, easier; is more compact, neater, lighter. And Spirolox *always* provides a uniform shoulder.

SEND FOR FREE TEST SAMPLES AND DATA BULLETIN

Let us see a blueprint of your retaining problem.

Ramsay Corporation, a subsidiary of Thompson Products, St. Louis 8, Mo. Dept. F,

U.S. Pat. No. 2,450,485 and Foreign Pats. Other pats. pend.



378

SPIROLOX—the Better Way to Hold Parts TOGETHER!

▲ For more details circle **NED-853 D8** on enclosed inquiry slip ▲

WHERE WILL YOU HAVE LUNCH TODAY?
—and what lunch hour seating facilities have you provided for your plant people?

FOLDS UP, ROLLS AWAY WHEN NOT IN USE!

Schieber "Transi-Fold" offers safe, respectable, sanitary seating right in the department. Quality built. Welded tubular understructure. Sanitary surfaces. Used in both large and small plants.

Write for our "In-Plant Feeding" folder

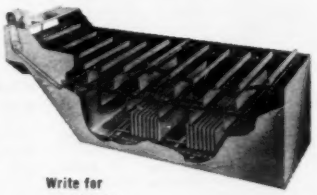
SCHIEBER SALES CO.
12955 Inkster Rd. Detroit 39, Michigan

▲ For more details circle **NED-854 D8** on enclosed inquiry slip ▲

Filters Heavy Loads
Delpark Filter-Matic
Dual Manifold, Vacuum Leaf Type Filter

WITH DOUBLE DRAG-OUT

- For heavy solids volume on continuous, automatic filtering operation.
- Leaf type filtering elements have greater filter surface area, higher filter flow.
- 2 expeller flight systems (optional) remove floating contaminants and solids blown from filter elements during cleaning.
- One manifold filters while the other backwashes.



Write for new literature on Dual Manifold Filters

Delpark —First in Filtration Advancement

INDUSTRIAL FILTRATION COMPANY
14 INDUSTRIAL AVE. LEBANON, INDIANA

▲ For more details circle **NED-855 D8** on enclosed inquiry slip ▲

KODAGRAPH MICRO-FILE EQUIPMENT

Here's everything you need for a low-cost, trouble-free microfilming operation . . . one that will meet *your* individual requirements.

- **Kodagraph Micro-File Machines**—three separate models designed to meet a variety of conditions. *Each* a high-precision unit which can be operated by anyone.
- **Kodagraph Micro-File Film**—extremely fine grained, high resolution. Assures sharp, crisp rendering of all details.
- **Kodagraph Film Readers,** which permit you to view your films quickly, conveniently.
- **Kodagraph Micro-File Enlarger,** which enables you to make paper enlargements from 16mm. and 35mm. microfilms which are comparable in clarity to the originals.
- **Kodagraph Print Film**—ideal for making positive copies of negative microfilm records.

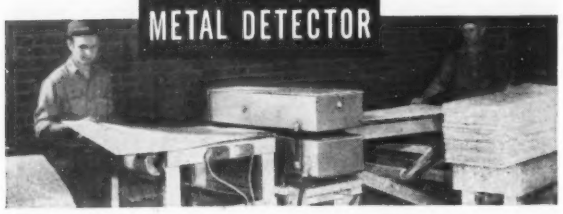
Write today *for new booklet—"Kodagraph microfilming for new economies in record keeping."*

EASTMAN KODAK COMPANY
Graphic Reproduction Sales Div.
Rochester 4, N. Y.

▲ For more details circle **NED-856 D8** on enclosed inquiry slip ▲

Mr. Hi Frequency, the Electronic "Counter-Spy" Traps Foreign Metal Agents

ALLIS-CHALMERS METAL DETECTOR



This electronic counter-spy assures positive protection against sabotage of quality by stray metal particles in your process or production line. Magnetic or non-magnetic metal particles, no matter how deeply embedded, immediately trigger a warning or reject mechanism when they pass the compact Allis-Chalmers metal detector.

This device is economical to operate, permits conveyor speeds to 600 fpm, and is easily incorporated into any production setup. Ask your local A-C man for Bulletin 15B7217B. or write Allis-Chalmers, Industrial Equipment Division, Milwaukee 1, Wisconsin.

ALLIS-CHALMERS A-C A-5629

For more details circle NED-857 D8 on enclosed inquiry slip

Leaders in their class

2 TON and 5 TON PRESS-RITE POWER PRESSES

Compare Feature for Feature

Note how many "Long-Life" Features you get with "Juniorline" Press-Rite Presses . . . these are top-quality features you'd expect only on larger presses—at much higher cost!

Model O 5 Ton

- Special High-Strength Frame with reinforcing ribs at all vital points.
  —Reduces die-wearing deflection.
  —Increases Production between die grinds.
  —Gives 2 to 3 times longer die life!
- Special Bronze-Bushed Flywheel.
- Bronze Bearings in both the main bearings and connecting rod.
- Bronze Wear Plate on back of ramways.
- Greatest Shut Height for their size! Permits using larger, more bulky dies.
- Adjustable Ram Gibs for more precise alignment.
- Open Back, Inclinable.
- Single Stroke Safety (may be quickly arranged for continuous operation.
- Steel Bolster Plate.

Yes, Press-Rite Power Presses are built-for-the-job. Save money in your plant, switch to PRESS-RITE . . . Top buy in the field!

Write for Bulletin 856 and Your Distributor's Name

SALES SERVICE MACHINE TOOL CO., 2365 University Ave., St. Paul 14A, Minn.

PRESS-RITE OPEN BACK—INCLINABLE Power Presses

For more details circle NED-858 D8 on enclosed inquiry slip

NEW Better Way To Transfer

Transfer "STICKY" STUFF "Direct-from-Drum" To Job!

Adhesives
Foods
Sealers
Plastics
Putties

And 100's of other hard to handle materials.

Cleans your drums at the same time!

- This new, air-operated pump and forced induction plate completely seals in the material, prevents contamination, spillage, channeling and waste. Eliminate slow hand operation and messy transfer of difficult material!

You paid for all of it . . . now get all of it! Graco Inductors move from top to bottom, scrape drum sides entirely clean, get *all* material from drum. Sizes for 55 gal. drum, half drum or 5 gal. pail. Write today for details!

GRACO "DIRECT-FROM-DRUM" PUMPS

GRAY COMPANY, INC.
47 Graco Square • Minneapolis 13, Minnesota
FACTORY BRANCHES: New York (Long Island City) • Philadelphia • Detroit • Chicago • Atlanta • Houston • San Francisco
SALES OFFICES: Washington • Toronto

For more details circle NED-859 D8 on enclosed inquiry slip

New Literature & Catalogs

Electric Hoists

American Chain & Cable Co., Wright Hoist Div.—Six types of electric hoists, including lug suspension, plain trolley, geared trolley, variable speed motor-driven trolley, and close headroom units with lifting capacities of ½ to 10 tons are described in 24-page Bulletin E-58. These Speedway hoists have a unique solenoid motor brake.

For more details circle NED-860 D8 on enclosed inquiry slip

Wire Identification Markers

Western Lithograph Co., Westline Products Div.—E-Z-Code self-adhering markers for positive identification of wires from small or miniature wires and electronic components to wires, cables, harnesses, and wires of any size are subject of 12-page brochure. Also listed are NEMA color codes, machine tool markers, phase indicators, electrical symbols, and voltage markers.

For more details circle NED-861 D8 on enclosed inquiry slip

Photoelectric & Electronic Controls

Autotron, Inc.—24-page guide to electronic and photoelectric controls is afforded in Catalog 58. Described are normal, high speed, ultrasensitive, and impulse actuated photoelectric controls; plug - in mounted photoelectric controls; timing devices; and a complete series of light sources. Controls operated by current surge and impact are covered, also.

For more details circle NED-862 D8 on enclosed inquiry slip

Applying Solderless Terminals

AMP Inc.—20-page "Selectalog" is an annotated directory of complete series of catalogs on solderless terminals and application tooling. Intended as a reference for those concerned with modern electrical circuitry, brochure also is a digest of solderless termination techniques.

For more details circle NED-863 D8 on enclosed inquiry slip

Designing & Producing Zinc-Base Alloy Parts

Henning Bros. & Smith, Inc.—28-page "Reference Book and Guide on Zamak Zinc Base Alloys" gives composition, mechanical properties, physical constants, and standard specifications on the most universally used Zamak alloys. Both production and design data are offered.

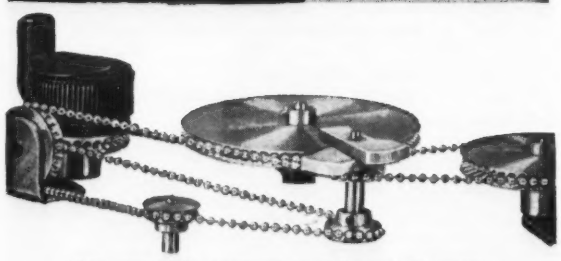
For more details circle NED-864 D8 on enclosed inquiry slip

Paint Spray Booth Water Treatment

North American Mogul Products Co.—Liquid treatment for water wash paint spray booths which protects equipment and facilitates recovery of overspray is discussed in Folder M-55. Described is Mogul M-55 which keeps paint overspray particles separated and envelops them in a protective film to keep them afloat. Protective properties and preventive maintenance uses of product are cited in 13 actual case histories.

For more details circle NED-865 D8 on enclosed inquiry slip

FOR POSITIVE, LOW-COST SPROCKET DRIVES . . . TRY GENUINE BEAD CHAIN



Now successfully employed in radio and TV tuners, recorders, air conditioners, timing devices, etc. Designed for economical, positive gear trains or drives free of slippage and backlash.

VERSATILE BEAD CHAIN has many other advantageous applications such as:
- part retainers
- remote control devices
- fan or ventilator pulls
- revolving displays

and many others

WRITE TODAY FOR CATALOG AND SPECIFICATION SHEETS

THE BEAD CHAIN MFG. CO.
16 Mountain Grove St. • BRIDGEPORT, CONN.

For more details circle NED-866 D8 on enclosed inquiry slip

Create Your Own Safety Messages with the DAV-SON "SAFETY DIRECTOR"

FLASHER-LIGHT Changeable-Letter Board

Flashing Red-and-Green Lights Compel Attention!

ONLY the Dav-Son "Safety Director" has the *changeable-letter* removable panel. Change messages quickly, easily, as often as you like for sustained safety interest. Size 18½" x 29½" 110-120 volts AC-DC.

$39.75 complete with 98 large Red and 250 smaller Black letters

DAV-SON Genuine Self-Sealing CORK BULLETIN BOARDS

World's largest selection of types and sizes for every indoor or outdoor use. Choice of top-quality features: hardwood or metal frames, locking glass door, fluorescent light, etc.

NOTICE ALL PERSONS WORKING IN THIS DEPARTMENT MUST WEAR GOGGLES

STOCK METAL WARNING SIGNS

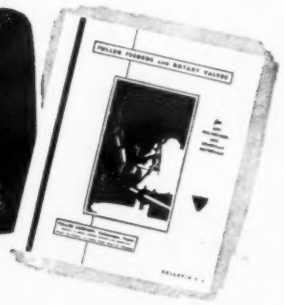
Colorful safety messages in long-wearing baked enamel on metal, 10"x 14". Over 300 titles in stock —*IMMEDIATE DELIVERY!*

Write for free catalog today! Dealer inquiries invited.

DAV-SON A. C. DAVENPORT & SON, INC.
Now in Our 26th Year of Quality Service
Dept. NE, 311 N. DESPLAINES ST. • CHICAGO 6, ILL.

For more details circle NED-867 D8 on enclosed inquiry slip

FULLER Feeders and Rotary Valves



Fuller Roll and Vane Type Feeders handle more than 64 different dry, pulverized and granular materials and are built of cast iron, combinations of iron and steel, and, when required, special alloys.

Fuller Feeders have been in thoroughly successful operation in a wide variety of industries for more than 25 years, handling such diversified materials as aluminum powder, corn flakes, rubber pellets and zinc sulphate.

Fuller Bulletin F-5 presents the comprehensive story on Fuller Feeders. It includes descriptive text, diagrams, dimensional tables and photographs. There is a copy for you that will be addressed to you merely for the asking. Send for it.

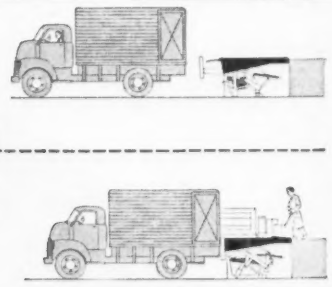
Fuller . . . . pioneers in harnessing AIR

FULLER COMPANY
154 Bridge St., Catasauqua, Pa.

F-17 3274

For more details circle NED-868 D8 on enclosed inquiry slip

NEW Automatic DOCK RAMP



Truck actuated . . . needs no counterweight

- Completely mechanical operation, powered by truck backing against ramp bumpers.
- Controlled tension spring assembly provides smooth operation and eliminates need for expensive counterweight.
- Positions automatically . . . has five other completely automatic features including cross traffic safety lock and self-aligning bumper.
- Low in cost and easily installed . . . recessed and front-of-dock models.

Rotary AUTOMATIC DOCK RAMP

GET FACTS TODAY

TEAR OUT this page, clip to letterhead and mail to

ROTARY LIFT CO.
Division of Dover Corporation
1168 Kentucky, Memphis 2, Tenn.

For more details circle NED-869 D8 on enclosed inquiry slip

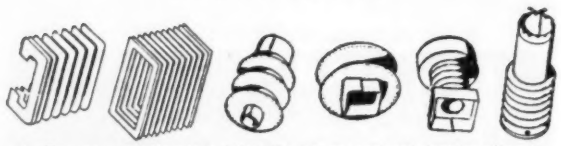
PROTECTED

by GORTITE

New, advanced designs in the original, neoprene, fabricated sleeve now extend the range of applications to include the rams on giant presses, turn-down screws on steel rolling mills and for both vertical and horizontal protection on machine tools. GORTITE is the protection that has passed rigid tests AMS-3270 and MID-5-7719 in aviation service. ALL GORTITE PARTS flex normally on their convolutions at temperatures 40° below zero to 220°F., without cracking and thereby overcome the weaknesses of leather parts. Latest literature, suggestions on designs and cost estimates sent promptly on your request to:

A & A MFG. COMPANY INC.
712 S. 12th St. • Milwaukee 4, Wis.

ALL SHAPES AND CONTOURS



▲ For more details circle NED-870 D8 on enclosed inquiry slip ▲

racks for any industry

complete metal working facilities including . . .

TUBING—Square, Round, Rectangular and special shapes

WIRE MESH—All Gages

SPECIAL FABRICATIONS

Write for complete catalog!

EQUIPMENT MFG. INC.

21566 HOOVER ROAD DETROIT 5, MICHIGAN

▲ For more details circle NED-871 D8 on enclosed inquiry slip ▲

New Processes & Materials

ALUMINUM CLEANER
holds paint, retards corrosion

Corroded aluminum is cleaned by Alumatreet, a chemical formula that creates an absorptive crystal coat at the same time. It also makes possible a tight paint bond that is free of blisters and peeling. It changes the alkaline aluminum and aluminum alloy surfaces to an essentially acid nonmetallic coating. Removal of oxide leaves the metal bright. The coating does not flake when light gage metal is bent, and dries at normal temperature. Price is $4 per gal. Made by **Farrelloy Co.**, 1246 N. 26th St., Philadelphia 21, Pa.

▲ For more details circle NED-872 D8 on enclosed inquiry slip ▲

PLASTIC LAMINATE ADHESIVE
is fast-drying, contact type

An excellent permanent bond for plastic laminating is obtained with Clair-Tract adhesive. Fast drying, it needs no clamps to join plastic sheet to backing. Heat resistance is above the boiling point of water, and adhesive withstands action of oil, grease, and water. It can also be used for edge gluing and on sharply curved surfaces. Sample is available from **St. Clair Rubber Co.**, 442 E. Jefferson Ave., Detroit 26, Mich.

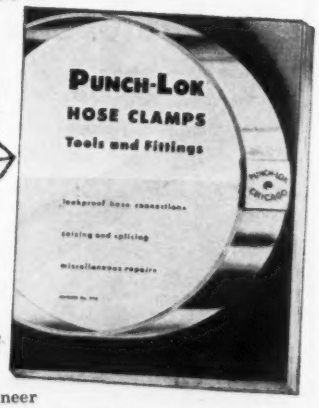
▲ For more details circle NED-873 D8 on enclosed inquiry slip ▲

ALUMINUM OXIDE CERAMIC
has 34,000 psi tensile strength

Tensile strength of 34,000 psi is exhibited by AD-99 nonporous, 99 per cent aluminum oxide ceramic. At 2000° F it retains 75 per cent of its tensile strength, or 20,000 psi. At modern microwave frequencies, loss tangents are lower than those of plastics and most special ceramic materials. Ceramic was originally used in making up to 10-in. diameter by 40-in. high radomes. It is now used to produce up to 10-in. diameter by 8½-in. high vacuum tube envelopes. Completely homogenous, with extremely fine crystal size, it has possible application as high temperature bearings, or even as gage blocks. Made by **Coors Porcelain Co.**, 846 Ford St., Golden, Colo.

▲ For more details circle NED-874 D8 on enclosed inquiry slip ▲

Write for this FREE New 12-page Data Book



It tells HOW TO SAVE Time and Money

Every maintenance engineer in industry and construction should have this complete compilation of data on the application and use of Punch-Lok Hose Clamps . . . the perfect clamp for

Pneumatic Tool Hose **Suction and Discharge Hose**
Welding Hose **Seizing Wire Rope Ends**
Mending Split Posts, Beams, and Planks
Splicing Welding Cable **Hundreds of Other Jobs**

7029

Send for this 12-PAGE Data Book TODAY!

PUNCH-LOK Company
Dept. A, 321 N. Justine St., Chicago 7, Illinois

▲ For more details circle NED-875 D8 on enclosed inquiry slip ▲

▲ For more details circle NED-876 D8 on enclosed inquiry slip ▲

FREE LATEST STAYNEW FILTER INFORMATION

Liquid Filter Bulletin 300

Completely describes design advantages of Staynew Liquid Filters for oils, water, chemicals. Specifications for 25 standard sizes and 10 different filtering materials are presented in both tables and graphs. Also contains data form which when completed by you, assures proper selection of the filter for your job.

Call your local Dollinger Representative, or write Dollinger Corporation, 49 Centre Park, Rochester 3, N. Y.

MODEL ELS LIQUID FILTER

STAYNEW FILTERS

DOLLINGER

SPECIALIZING IN DRY TYPE FILTERS FOR OVER 35 YEARS

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THE FLIP-OVER ELECTRICAL CONNECTOR WITH THE WATERPROOF SEAL

*Canadian Standards Association Laboratories' tests report the following: "Representative samples (of Flip Seal) were assembled to lengths of flexible cord of the proper diameter and were immersed in 2 feet of water for 24 hours. There was no infiltration of water."

WATERPROOF—flexible lip overlapping male cap and seals at wire entrances effectively stop moisture penetration

CRUSHPROOF — lip and heavy construction protect against crushing, shock, abuse.

DUSTPROOF—just as effective against entrance of dust, dirt or metal particles

AVAILABLE — in rubber or neoprene in a variety of blade arrangements

UL Listed - CSA Approved

For complete information and prices, write:

Rodale Mfg. Co., Inc. D4 Emmaus, Pa.

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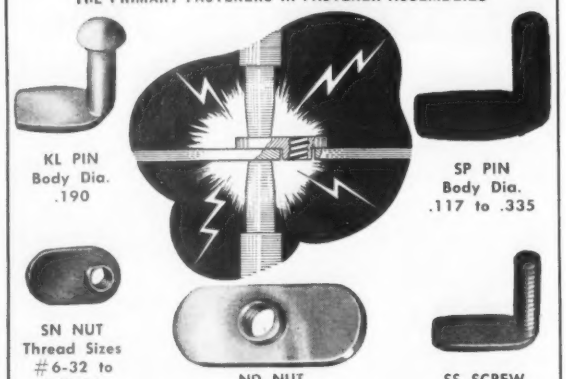
OHIO SPOT WELDING FASTENERS

THE PRIMARY FASTENERS IN FASTENER ASSEMBLIES



If you do spotwelding you can attach OHIO Spotweld Fasteners at the same time for faster, trouble-free assembly.

OVER 50 YEARS OF BETTER FASTENING

Samples and information available upon request.

THE OHIO NUT & BOLT CO.

14 First Avenue • Berea, Ohio

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Cut ANY Shape in Metal...

with a BEVERLY THROATLESS SHEAR!

- Capacities to 3/16" in mild steel
- Make clean, knurl-free cuts in any metal to capacity
- High Carbon High-Chrome Blades
- Built to last a lifetime

Here's What a Beverly Can Do!

Cuts made in 18 ga. metal with Model B-1

Model B-3 with Ball Bearing Hold Down

Beverly Shears are the most versatile metal shearing tools you can use. Unique shoulder design permits any cut . . . rack and pinion gives great power with little effort. Alloy steel body for maximum rigidity and strength. Made in 4 models.

Write for illustrated circular —or see your Beverly Distributor.

Beverly SHEAR MFG. CO.

3016 W. 111th Street Chicago 43, Ill.

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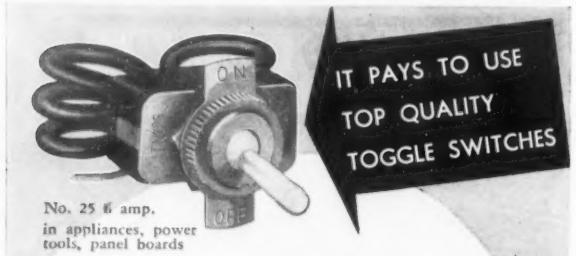

IT PAYS TO USE TOP QUALITY TOGGLE SWITCHES

No. 25 6 amp. in appliances, power tools, panel boards

SPECIFY McGILL® Levolier®

TOGGLE SWITCHES

No. 90

No. 29

Available from Electrical Wholesalers

Top quality material, workmanship and the famous Levolier switch design assure you of years of trouble-free performance. Encased in molded phenolic, all Levolier toggle switches are dust and vibration-proof. The complete line offers a choice of wire leads, screw terminals, soldering lugs, or spade terminals on most models. It also includes momentary contact, single, two circuit and three-way models.

Send for Catalog No. 84

McGILL® ELECTRICAL SPECIALTIES

are always a little better and ALL *are Underwriters' Laboratories inspected*

McGILL MANUFACTURING CO., INC. 151 N. Campbell St. Valparaiso, Indiana

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New Literature & Catalogs

High Vacuum Components & Equipment

NRC Equipment Corp.—16-page product summary and price list covers line of standard and custom high vacuum components, equipment, and systems. Listed are mechanical and diffusion pumps, gages, valves, accessories, analytical apparatus, melting and heat treating furnaces, freeze drying and vacuum coating equipment, leak detectors, portable pumps, dehydrating and impregnating equipment, and altitude chambers.

▲ For more details circle NED-883 D8 on enclosed inquiry slip ▲

Variable Speed Drives

Sterling Electric Motors, Inc.—Basic types of Speed-Trol variable speed drives, as well as available modifications are pictured in 8-page Bulletin 195. Controls for these units range from simple manual types to systems monitored by sensing and signaling devices. Representative controls are shown. Drives are used in metalworking, mixing, pumping, materials handling, and continuous processing applications.

▲ For more details circle NED-884 D8 on enclosed inquiry slip ▲

Equipment for the Steel Industry

Elliott Co.—40-page photo-brochure Q-23A illustrates, with more than a hundred installation photos and drawings, equipment for the steel and related industries. Sections are devoted to drives for mill auxiliaries, materials handing equipment, sintering plants, tube mills, and hot and cold rolling mills. Applications in which complete electrical systems from main motor-generators to auxiliary motors and control equipment are pictured.

▲ For more details circle NED-885 D8 on enclosed inquiry slip ▲

Die Cast Industrial Fasteners

Gries Reproducer Corp.—Line of die cast threaded fasteners described in 8-page Form F-2 is unusual in that many special fasteners are offered as stock items. Typical are the high and washer base type closed-end cap nuts. Special section is provided on injection headless set screws, screw insulators and bushings, molded nylon fasteners, including machine screws, washers, and special fasteners.

▲ For more details circle NED-886 D8 on enclosed inquiry slip ▲

Metalworking Punches, Dies, & Machines

T. H. Lewthwaite Machine Co.—Set of 26 current catalog sheets lists large stock of punches and dies to fit most punch presses. Included are instructions for figuring clearances to allow for both type and thickness of material being punched.

▲ For more details circle NED-887 D8 on enclosed inquiry slip ▲

Link-Type V-Belts

R. & J. Dick Co.—Sectional type Dixlink V-belts for drives in ratings ranging from ½ to 1000 hp are listed and described in 6-page folder. Grades are available for practically any service condition for all sizes of pulley grooves.

▲ For more details circle NED-888 D8 on enclosed inquiry slip ▲

ADAMS creates a Cyclone to give you Drier Compressed Air

The Adams Aftercooler and Cyclone Separator are a perfect team. The highly efficient aftercooler condenses more moisture . . . the separator's unique design creates a cyclone to remove more of the condensation.

Write today for all the facts . . . Get your copy of Bulletin 711.

R. P. ADAMS CO., INC. 227 E. PARK DRIVE BUFFALO 17, N. Y.

▲ For more details circle NED-889 D8 on enclosed inquiry slip ▲

SLASH washing costs

with John BEAN AQUABLAST

HIGH PRESSURE WASHERS

IS YOUR CLEANING PROBLEM ONE OF THESE...OR SIMILAR?

- Processing tanks
- Metal rust or scale
- Heat exchanger tubes
- Boxcar interiors
- Cement trucks
- Animal carcasses
- Food plant floors
- Chemical residues

One man with AQUABLAST equals a crew of men using ordinary water pressures. The important difference is that water, discharged at 600 lbs. pressure from an Aquablast gun, cuts through caked dirt, hardened deposits, gummy residues or accumulated grime like magic! John Bean Aquablast Washers are complete, motor driven pumping units for use with 1 to 3 guns.

Send information request form — today!

John BEAN Division of Food Machinery and Chemical Corporation

INDUSTRIAL SALES DEPT. LANSING 4, MICHIGAN SAN JOSE 1, CALIFORNIA

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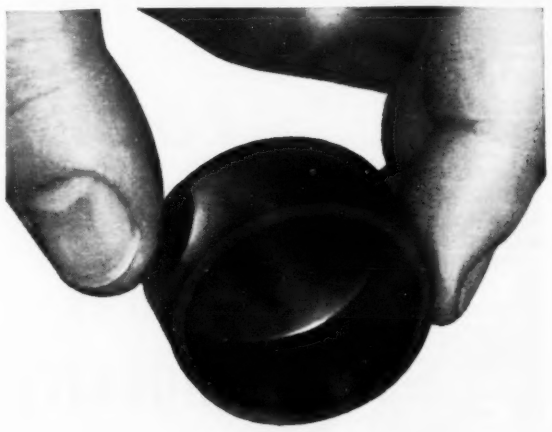


S.S.White

PLASTIC PLUGS AND CAPS

FULL PROTECTION
EASY TO REMOVE
EASY TO INSTALL
WILL NOT SHRED

S.S.WHITE Plugs and Caps give full protection, plus many other important advantages. They'll never shred, leaving debris in your product. Your customers will appreciate their simple ease of removal. Installation takes only seconds of production line time!

THE QUALITY LINE—of Rigid Acetate—is tough, non-brittle, impervious to petroleum-base oils and greases, and withstands impact.

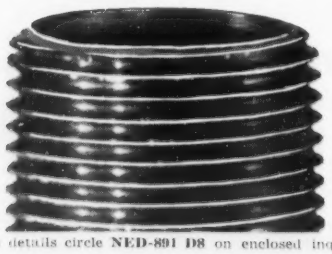
THE ECONOMY LINE—of Flexible Elastoplastic Vinylite has a "non-slip grip" for easy installation or removal, a stay-put fit, and gives sure protection against damage in handling, storing or shipping.

S.S.WHITE Plastic Plugs and Caps will give your product *sure* protection, worth thousands of dollars, at a cost of only pennies! Ask for samples and for Bulletin P5708. (Dept. 7P)

S.S.White

PLASTICS DIVISION

10 East 40th Street, New York 16, New York
Western Office: 1839 West Pico Blvd., Los Angeles 6, Calif.



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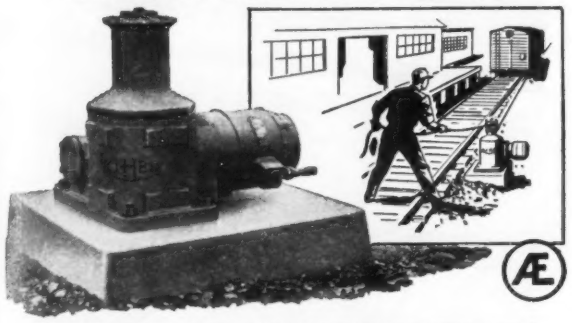
NOW! STOP WASTEFUL EXPENSE AT YOUR RAILROAD SIDING



IF YOU actually saw a Lo-Hed Car puller in operation you'd probably order one in a hurry. It is a first rate investment — pays for itself fast. It puts a stop to shifting charges. Cars get loaded and unloaded in record time. Demurrage charges are slashed. Industrial accidents are minimized... And a Lo-Hed Car Puller saves money *inside* a plant, too — pulls loads in a straight line, up grades and around corners.

Lo-Hed Car Puller is rugged, electrically-driven, built for trouble-free service. Write for folder telling you how to use a Car Puller in your plant.

AMERICAN ENGINEERING COMPANY

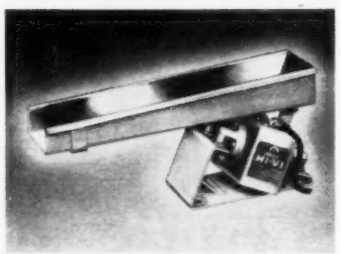
Dept. CP-184, Wheatsheaf Lane & Sepviva St., Philadelphia 37, Pa.
CANADIAN SUBSIDIARIES: Affiliated Engineering Corporations, Ltd., Montreal, P. Q. . . . Bowden Industries Ltd., Toronto, Ont.
AE products are: Taylor, Perfect Spread and Vibro-Grate Stokers, Hole-Shaw and Hydramite Fluid Power, Lo-Hed Hoists, Lo-Hed Car Pullers, Marine Dock Auxiliaries.

▲ For more details circle NED-892 D8 on enclosed inquiry slip ▲

NEW HI-VI VIBRATORY FEEDER BY ERIEZ OFFERS MANY ADVANCED FEATURES!

- **Totally - enclosed drive element**
- **Rustproof, long-life spring**
- **No rectifier needed**
- **More uniform feed**
- **Greater capacity than comparable physical size units**

(Pat. Pending)



Improved line of HI-VI electro-permanent magnetic vibratory feeders operate at 3600 CPM directly off an AC line—need no rectifier. Totally-enclosed drive element can't be damaged or lose efficiency due to contamination by moisture or foreign materials. Disc-shaped, glass fiber springs are rustproof; not subject to critical characteristics of steel leaf spring systems. And these new units provide greater capacity than any other comparable size feeders.

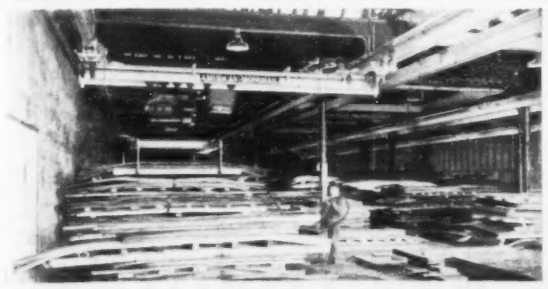
HI-VI Feeders provide a liquid-like flow to all types of bulk materials, variable from ounces to tons per hour. Units are lightweight, compact, easily installed. Almost silent operation; no sliding or rotating parts to wear. Low operating and maintenance costs. Lifetime-powered Alnico V magnet is the heart of the unit.

ERIEZ HI-VI VIBRATORY EQUIPMENT

Magnetic SEPARATION AUTOMATION VIBRATION equipment

For complete information on HI-VI Feeders, write to **Eriez Mfg. Co.**, 80-D Magnet Dr., Erie, Pa.

▲ For more details circle NED-893 D8 on enclosed inquiry slip ▲



Reduce "*Manufacturing Overhead*" ...by Going Overhead with AMERICAN MONORAIL

Reduce indirect mfg. costs
Eliminate re-handling
Damage to floors eliminated
Utilize larger production units
Control work flow
Expedite production

Minimize employee fatigue
Full use of plant cubage
Gain full use of floor space

Cut "down time"
Overcome floor hindrance
Secure flexibility in material movement
Transfer loads without re-handling
Safety for the employee

AMERICAN MONORAIL 13116 ATHENS AVENUE CLEVELAND 7, OHIO

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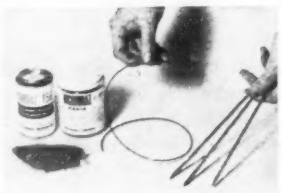
New Processes & Materials

BRAZING ALLOY
for high temperature service



High strength and oxidation resistance are features of Nicrobraz 150 high temperature brazing alloy, applicable where erosion must be controlled. The nickel-base material contains chromium borides and is suited for fabrication of turbine blades, rotor shafts, and highly stressed sheet metal structures. Powder, rod, paste, and plastic bonded wire forms are available. It resists oxidation to 1800° F plus, withstands 720-degree twisting without fracturing, and has tensile shear strength of 34,000 psi. Flow properties are good at 2150° F. Alloy is recommended for furnace brazing in pure, dry hydrogen or in a vacuum atmosphere, or for torch brazing in air when used as a paste or with Nicrobraz flux. Made by **Wall Colmonoy Corp.**, Stainless Processing Div., 19399 John R St., Detroit 3, Mich.

▲ For more details circle NED-895 D8 on enclosed inquiry slip ▲

METAL-FABRIC ADHESIVE
applied by brush, roller, or spray

Wood, fabric, paper, felt, and other porous materials can be bonded securely to metal with noninflammable Metex adhesive. Permanently flexible, it can be used prior to forming of metal parts. It can be used also to adhere leather to buckles, buttons, frames, and other accessories. Made by **Adhesive Products Corp.**, 1662 Boone Ave., New York 60, N. Y.

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ENCAPSULATION KIT
tests epoxy procedures, materials

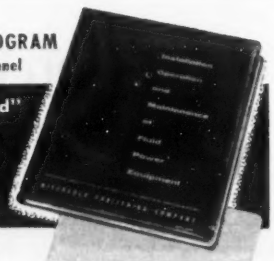
All the materials and technical data needed to encapsulate components with any of three methods are contained in this experimental kit. Procedures can be tested in the user's laboratory, on his components, at a minimum cost with the kit which contains three samples each of nine prototype sizes of compression-molded E-case shells. Powder and pellets included are interchangeable, depending upon the application. Samples of epoxy liquid and hardener are included for applications that will not tolerate elevated temperatures. Kit is offered for $9.93. Made by **Epoxy Products, Inc.**, Dept. NED, 137 Coit St., Irvington, N. J.

▲ For more details circle NED-897 D8 on enclosed inquiry slip ▲

Now . . . for the first time—

A FLUID POWER TRAINING PROGRAM
to fill industry's need for trained personnel

Hitchcock's NEW "job-related" home study course "INSTALLATION, OPERATION and MAINTENANCE of FLUID POWER EQUIPMENT



An up-to-date practical course of study covering Theory, Fundamentals of operation, Application, Diagnosis and Repair for all types of hydraulic and pneumatic equipment and controls.

The problem of developing properly trained, qualified personnel to install, operate and maintain FLUID POWER EQUIPMENT becomes greater day by day. Design simplification and "advanced mechanization" continually expands and increases the uses of FLUID POWER to increase production and operating efficiency in all phases of industry.

Hitchcock Publishing collaborated with two of the nation's leading fluid power authorities to develop this program. Now, men can be trained "on-the-job" through home-study and daily direction in the development of practical skills in fluid power.

Hitchcock's course is available to company sponsored group enrollments or individuals on a low-cost basis in a convenient, practical 18 chapter study course. Upon completion of the course, students will attend a 2 day work-shop session for practical review, application and discussion of the material covered.

Investigate **the advantages of Hitchcock's FLUID POWER home-study course for training individuals to fill your fluid power personnel needs. You'll benefit through increased production and operating efficiency. Send for complete information and enrollment forms today!**

HITCHCOCK Publishing Company Dept. of Training & Education, Industrial Services Division, 222 E. WILLOW AVE., WHEATON, ILLINOIS

▲ For more details circle NED-898 D8 on enclosed inquiry slip ▲

THIS is No Ordinary Power Hack Saw Blade

This is the *unbreakable* MARVEL High-Speed-Edge Hack Saw Blade—the first bi-metal blade—invented, developed and introduced by MARVEL. This blade was developed to cut any material from the free machining steels to the toughest alloys, fast, accurately and economically. Just one type blade to handle any job—no switching blades to cut different materials.

MARVEL blades can be tensioned from 200% to 300% more taut than ordinary blades. This advantage permits heavier feed pressures to be used without deflection or fear of breakage.

This rugged cutting tool assures outstanding economy, accuracy, long life and complete safety—*it is unbreakable.*

Ask for MARVEL Blades by name and you can be sure you're getting the best. Leading Industrial Distributors have them in stock. Write for latest Cutting Tool Bulletin. FB-1021

ARMSTRONG-BLUM MFG. CO.
5700 W. Bloomingdale Ave., Chicago 39, U.S.A.
Manufacturers of the Outstanding MARVEL Metal Saws

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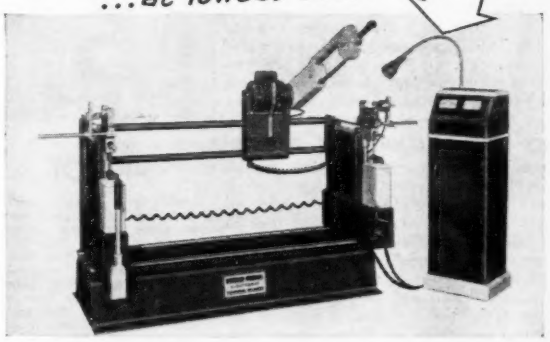
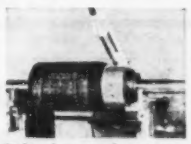
NOW! *the most versatile, precision* **DYNAMIC BALANCERS** *...at lowest cost!*



THE NEW STEWART-WARNER

Electronic Industrial Balancers

The new Stewart-Warner Industrial Balancers not only give you lowest first cost, but cut the cost of balancing per piece so low that even smallest shops can now afford their own precision balancing equipment! Handle single-piece, short-run and long-run production, as well as maintenance of your own machines. Semi-skilled workers can learn to operate them in one day! Extremely versatile, sturdy, accurate.



Balancing an Armature

Balancing a crankshaft

- ★ **4 models for use in single-piece, short-run or long-run production quantities.**
- ★ **Set-up time less than 2 minutes!**
- ★ **For balancing a wide range of work on same machine — with no special tooling, coupling devices or accessories needed to change jobs!**

Only the Stewart-Warner Balancers Offer These Maximum and Minimum Ranges:

	Weight Range	Diametral Range	Length Range	Sensitivity
Model 702	¼ lb. to 300	¼" to 30"	4¼" to 40"	0.01 inch-oz.
*Model 704	½ lb. to 1000	½" to 44"	4½" to 55"	0.01 inch-oz.
*Model 708	1 lb. to 5000	1" to 68"	7" to 83"	0.04 inch-oz.

Portable In-place balancing of all rotating machinery.
*Various weight and length modifications available upon request.

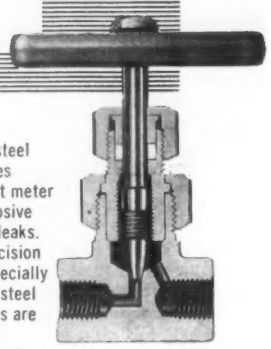
Symbol of SW Excellence **STEWART-WARNER CORPORATION**

Mail coupon for illustrated brochure!

STEWART-WARNER CORPORATION, Dept. SS-48
1850 Diversey Parkway, Chicago 14, Illinois
Please mail me all the facts about Stewart-Warner Industrial Balancers.
Name .....
Company .....
Address .....
City ..... Zone ..... State .....

▲ For more details circle NED-900 D8 on enclosed inquiry slip ▲

AMERICAN® needle valves



Teflon-packed, forged steel American® Needle Valves stand up in the toughest meter manifold jobs and other corrosive field services without gland leaks. Stainless or carbon steel precision machined valve bodies are specially suited for welding. Stainless steel centerless-ground valve stems are designed so that the valves can be repacked under pressure.

Standard valves design rated for pressures to 5,000 psi at 70°F. For pressure to 10,000 psi, upon request, valves are hydrostatically tested and individually inspected. Valves are furnished with graphite-impregnated asbestos packing for temperatures above 450°F.

Angle or straight patterns — screwed or union bonnets.

AMERICAN METER COMPANY INCORPORATED ESTABLISHED 1836

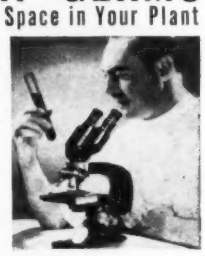
Executive Offices: Philadelphia 16, Penna. Sales Offices In Principal Cities

For more details circle NED-901 D8 on enclosed inquiry slip

KILL 20 MILLION GERMS

For Every Sq. Ft. of Floor and Wall Space in Your Plant

AND REDUCE EMPLOYEE ABSENTEEISM



Scientific researchers tell us there are more germs in your plant than you realize—about 20 million for every sq. ft. of floor and wall space. These germs, bacteria and virus are responsible for 90% of Industry's absenteeism, causing colds, flu, grippe, throat infections and dysentery. A new method now lets you kill these germs and clean in one quick operation—helping prevent these common ills before they start.

NO SPECIAL EQUIPMENT NEEDED!

Your present maintenance equipment, plus Penetone's new discovery PC-6 is all you need: Safe on skin and all surfaces, users have discovered that in addition to germ killing ability, PC-6 is better for general maintenance than 90% of all detergents! It quickly strips dirt, scum and old soap film off any floor, tile, wood, cement. It restores the natural beauty to all floors, rinses film-free and leaves a pleasant, fresh air odor.

10c TREATS 1200 SQ. FT.

Use only ¼ cup PC-6 for every gallon of water to kill germs and sparklingly clean 1200 sq. ft. of floor or wall space. Your cost—only pennies, even less than most simple detergents!

PROOF

Laboratory "phenol coefficient test" was performed to prove the germ killing power of PC-6. Two test tubes were used—one filled with carbolic acid solution, the other with PC-6. Germ solutions, swabbed from a floor, were put into each test tube. A bacteria count showed that PC-6 killed 6 times more germs than carbolic acid!

PC-6 IS GUARANTEED TO KILL BACTERIA, VIRUS, FUNGAE AND ALGAE.

SEND FOR FULL INFORMATION TODAY

the PENETONE Co.

Box ND-458 Tenafly, New Jersey

For more details circle NED-902 D8 on enclosed inquiry slip

Have You This Latest Bulletin K-1204?

Here is the ideal space-saving economical and ultra sanitary wash fixture for schools, institutions, commercial, public and factory buildings—the Bradley Duo-Washfountain. Nationally advertised and widely accepted.

Write for free copy of this new Bulletin K-1204. BRADLEY WASHFOUNTAIN CO., 2253 W. Michigan St., Milwaukee 1, Wis.

BRADLEY Duo washfountains

Distributed Through Plumbing Wholesalers

For more details circle NED-903 D8 on enclosed inquiry slip

New Literature & Catalogs

Magnesium Extrusions & Rolled Products

White Metal Rolling & Stamping Corp.—Properties, uses, and advantages of magnesium extruded and rolled products are related in 56-page booklet "Whitelite Magnesium and Aluminum Alloys." Technical information is presented for use by engineers, designers, and manufacturers. Magnesium alloys are available in bars, rods, tubes, sheets, plates, strips, wire, and structural, semihollow, and hollow shapes.

For more details circle NED-904 D8 on enclosed inquiry slip

Resistance Welding Design Standards

Sciaky Bros., Inc.—50-page engineering report deals with tentative design standards for resistance formed welds in mild steel. Line drawings show various piece part combinations, and tables give related technical information regarding procedures. Formulas are included.

For more details circle NED-905 D8 on enclosed inquiry slip

How To Choose Electrical Cable

Okonite Co.—Hints for electrical cable users and buyers on selecting the proper cable construction are contained in 20-page booklet "How to Choose Insulated Cable." Cartoon illustrated and easy to read, this guidebook discusses all factors related to cable selection and use.

For more details circle NED-906 D8 on enclosed inquiry slip

Permanent Magnet Design

Thomas & Skinner, Inc.—"Permanent Magnet Design" is title of 20-page Bulletin No. 58. It covers such subjects as permanent magnet applications, fundamental properties, design problems and their solution, magnet testing, magnetic attraction, mechanical considerations, and stabilization and magnetization of finished magnets.

For more details circle NED-907 D8 on enclosed inquiry slip

Vibrating Screens

Simplicity Engineering Co.—Gyrating, Simpli-Flo, and horizontal vibrating screens for use in coal, quarrying, aggregate, and other industries are described in 30-page Catalog 571. Also covered are Grizzly feeder, Os-A-Veyor feeders, and aggregate screens for scalping, sizing, and dewatering.

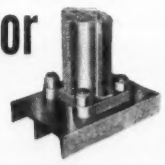
For more details circle NED-908 D8 on enclosed inquiry slip

Guide to Aluminum Sheet & Plate

Technical manual entitled "Kaiser Aluminum Sheet & Plate Product Information" is a 320-page volume designed to present data on aluminum's characteristics and its practical application for a variety of fabricated parts and assemblies. It describes aluminum and its alloys, tells how it is made, and lists its physical and chemical attributes. Book also presents basic facts to aid the user in proper selection and fabrication. Price is $5. It is available free if requested on company letterhead. Write to Kaiser Aluminum & Chemical Sales, Inc., Dept. NED, 919 N. Michigan Ave., Chicago 11, Ill.

For more details circle NED-909 D8 on enclosed inquiry slip

New Two Part Vibrator is 50% Lighter



The Cleveland Vibrator Company, Cleveland, Ohio, is marketing a new heavy duty air vibrator, that is lighter and more durable.

This vibrator, type KO, has only two parts, not including the optional base. The steel piston is housed in a cast aluminum or semi-steel cylinder block. The assembly is bolted either directly to the bin, or to a base plate welded on the bin.

Substantial weight savings are made by using an aluminum cylinder. The 4" aluminum weighs 47 lbs. This compares with 185 lbs. for a conventional 4" steel vibrator. By reducing the weight, the installation of the KO is simplified, especially when the vibrator is being mounted some distance off the ground.

The KO is permanently lubricated with molybdenum disulfide, dry film lubricant, which provides lifetime lubrication.

The KO is available with a 2" diameter piston or a 4" diameter piston. It has been successfully used to move all types of bulk materials, including cement, sand, gravel, grain, chemicals and coal through bins, chutes, hoppers and tubes.

Write today for complete data and prices.

THE CLEVELAND VIBRATOR CO.

Dept. K4, 2744 Clinton Avenue, Cleveland 13, Ohio

For more details circle NED-910 D8 on enclosed inquiry slip

NEWS FLASH:

PARKER proves one man can sweep 50,000 sq. ft. per hour

Turbo-Sweep "40"

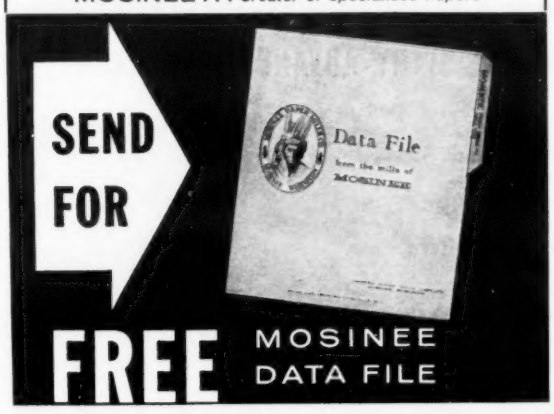
Self-propelled, controls at hand level. Collects all debris. Dust bag and trash hopper emptied in seconds. Free catalog.

Dept. N

Parker SWEEPER COMPANY BOX 720, SPRINGFIELD, OHIO

For more details circle NED-911 D8 on enclosed inquiry slip

MOSINEE . . . *Creator of Specialized Papers*



Tells how specially treated papers provide production, protection economies

Many industries, including electrical, fabricating, metals and plastics, have found that *Mosinee Custom-Made Papers* help cut production, packaging and protection costs.

Send for free *Mosinee Data File* that gives complete information on Mosinee neutral, mold-inhibiting, flame-deterring, moisture-repelling and other specialized papers. Mosinee "tailor-makes" formulas to meet your needs. Our specialists are available for consultation with you. Write: Department NED-4,

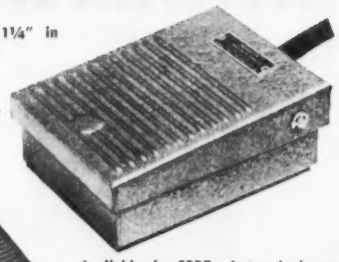
MOSINEE PAPER MILLS COMPANY
MOSINEE, WISCONSIN

For more details circle NED-912 D8 on enclosed inquiry slip

NEW LINEMASTER *designed especially for original equipment manufacturers by America's Footswitch Leader*

Hi-treadlite

Just 3½" x 2½" x 1¼" in size with strong gray hammertone finished steel housing, skid-proof rubber base pad, this 9½ oz. switch has long service life, high electrical rating.



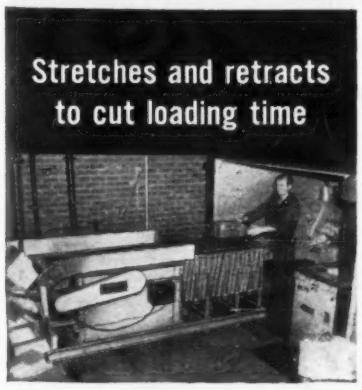
Available in SPDT, 4 terminal, and simulated DPDT circuits. Combine any two to form a Hi-treadlite twin switch. Special cordsets, nameplates and colors available.

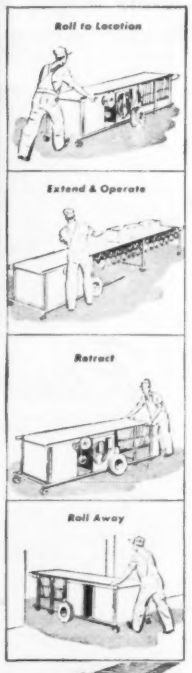
Write for prices, bulletin and complete catalog of the more than 75 Linemaster footswitch models.

LINEMASTER SWITCH CORP.

424 Woodstock Terrace, Woodstock, Connecticut

For more details circle NED-913 D8 on enclosed inquiry slip





THE *Standard* EXTENDOVEYOR

With its extendable belt carrier, this portable power-belt conveyor easily reaches into confined spaces . . . speeds loading of trucks, trailers, boxcars. Handles a wide range of commodities . . . can be moved and operated by one man. Choice of two models (one-way and two-way extendable) and five sizes up to 46 feet extended length.

WRITE for Extendoveyor Bulletin 64 — Address Dept. K-4.
STANDARD CONVEYOR CO.
North St. Paul 9, Minn., U.S.A.
Canada: International Equipment Co., Ltd., Montreal • Toronto Hamilton • Edmonton • Vancouver

Standard GRAVITY & POWER CONVEYORS

▲ For more details circle **NED-914 D8** on enclosed inquiry slip ▲

LOWEST COST HAMMERS YOU CAN BUY

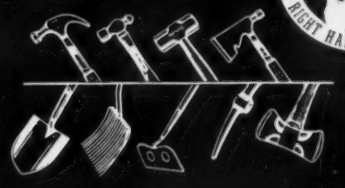
Famous ROCKET® hammers are not the "cheapest" – but they cost much less in the long run. What's more, they are the safest.

Shock-absorbing ROCKET handle is a chrome-plated tube of boron-alloy steel—strongest ever made. Carefully forged, tempered and hardened head is permanently locked to handle—can't loosen or fly off. Tough neoprene-fiber cushion grip soaks up shock, won't slip wet or dry or in gloved hand.

ROCKET nail hammers, rippers and ball peins are made in a variety of weights for all kinds of service. Each has patented ROCKET design that makes it outlast ordinary hammers many times. Over 1,000,000 in use! Contact your True Temper industrial distributor.

WRITE FOR FREE CATALOG
"TOOLS FOR INDUSTRY"
True Temper
1623 Euclid Avenue
Cleveland 15, Ohio

INDUSTRIAL DISTRIBUTORS · SERVING INDUSTRY ECONOMICALLY · THE RIGHT HAND OF PRODUCTION



TRUE TEMPER
THE RIGHT TOOL FOR THE RIGHT JOB

▲ For more details circle **NED-915 D8** on enclosed inquiry slip ▲

New Processes & Materials

SYNTHETIC RUBBER PARTS molded in subminiature sizes

Illustrated tiny cylindrical shape, about the size of a pin head and with a 0.010-in. hole, is typical of the subminiature synthetic rubber parts now available from a custom-molding facility. The ultra-small parts are molded to dimensions held within extremely close tolerances. They can be made from most of the synthetic rubber materials used for Parker O-rings, plus other specialized materials. Made by **Parker-Hannifin Corp.**, Parker Rubber Div., Dept. NE, 17325 Euclid Ave., Cleveland 12, Ohio.

▲ For more details circle **NED-916 D8** on enclosed inquiry slip ▲

DRAFTING FIXATIVE offered in self-spray container

Fixatene spray fixative for drawings allows lines to be added over treated areas and also permits easy erasure, repencilling, or reinking. Packaged in a 12-oz aerosol container, it is easily applied. It protects both pencil and ink lines against smudging on drawing films such as Stabilene. It is equally effective on natural or transparentized tracing papers, all types of tracing cloth, and as a fixative in illustration work involving charcoal or pastels. A light mist is merely applied to the drawing at arm's length. Marketed by **Keuffel & Esser Co.**, 300 Adams St., Hoboken, N. J.

▲ For more details circle **NED-917 D8** on enclosed inquiry slip ▲

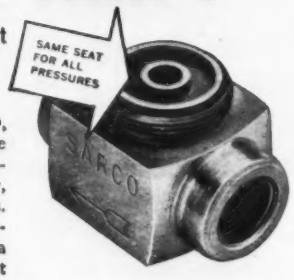
PLYWOOD-MOLDED PIPE lined with any type of material

Laminated wood veneers bonded together to form a strong yet lightweight tubing comprise this plywood-molded pipe, available in any diameter and lined with any type of material to fit the application requirements. It can be used as a replacement or substitute for all types of metal, wood, or plastic pipe, in practically every type of piping project. Pipe is easily handled, installed, and fitted. Made by **Plycraft, Inc.**, Dept. NE, 39 S. Canal St., Lawrence, Mass.

▲ For more details circle **NED-918 D8** on enclosed inquiry slip ▲

SELF-ADJUSTING STEAM TRAP!

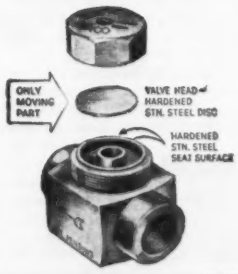
One large capacity seat for all pressures — 10 to 600 psi



Yes, in each size Sarco TD, you use exactly the same large capacity seat . . . for all pressures 10-600 psi . . . for heavy, light or no condensate loads. *Self-adjusting* throughout entire pressure range . . . not a single change or adjustment required.

Inventory simplified-reduced
No need to stock seats and heads for various loads and pressures.

60-day trial convinces
We'll send you Sarco TD steam trap, strainer. No cost or obligation. Buy *only* if completely satisfied. Advise size—3/8, 1/2, 3/4 or 1"—and use. Sarco Co., Inc., 635 Madison Avenue New York 22, N. Y.



2243-F

SARCO Thermo-Dynamic STEAM TRAP

THE MODERN TRAP THAT IS MAKING STEAM TRAPPING HISTORY!

▲ For more details circle **NED-919 D8** on enclosed inquiry slip ▲

GRINDING MILL OUTPUT upped!

Performance proved! Sturtevant Air Separators, in closed circuits with grinding mills, have increased mill capacities from 25 to 300% while lowering power consumption as much as 50% in the cement industry.

Easily adaptable to your materials! Sizes of Sturtevant Air Separators, ranging from 3 to 18 feet dia., can be engineered to fit your specifications.

Cost-cutting features include rugged construction for a lifetime of low down-time service *plus* easy accessibility for quick maintenance (typified by the "OPEN-DOOR" design in other Sturtevant equipment).

Write for bulletins on Sturtevant Air Separators and other custom-built equipment listed below. STURTEVANT MILL CO., 114 CLAYTON ST., BOSTON 22, MASS.

STURTEVANT
Dry Processing Equipment
The "OPEN-DOOR" to lower operating costs over more years
CRUSHERS • GRINDERS • MICRON-GRINDERS • SEPARATORS
BLENDERS • GRANULATORS • CONVEYORS • ELEVATORS

▲ For more details circle **NED-920 D8** on enclosed inquiry slip ▲

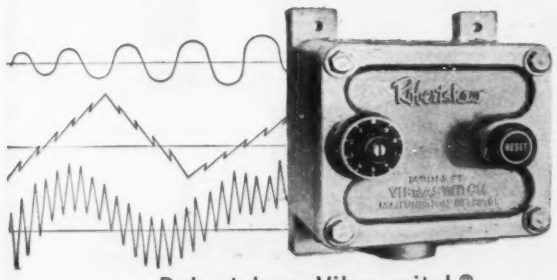
WHERE?

Where do you go for the *finest* fire warning equipment? To Kidde, for the dependable "Atmo" Fire Alarm System. Actuated by rate-of-temperature-rise at the first hot breath of fire, the system sounds an alarm. Main control box gives fire location. System operates independent of outside power sources. Self-supervising and self-resetting, Kidde-Atmo systems are custom-designed to fit your property. Write for the Kidde-Atmo Catalog I-4.

Kidde—Atmo
FIRE DETECTION
J. H. SCHARFF, INC.
424 Main Street, Orange, N. J.
A Subsidiary of Walter Kidde & Company, Inc.

▲ For more details circle **NED-921 D8** on enclosed inquiry slip ▲

PREVENTS HARMFUL VIBRATION



new Robertshaw Vibraswitch® "Malfunction Detector"

Detects improper operation and anticipates component failures of rotating or reciprocating equipment

Actuates alarms or shuts down equipment when vibration exceeds the set limit

Responds to all kinds of vibration effects

Can ignore temporary, excessive vibration during start-up or normal operation

Simple and trouble-free . . . many types and housings available

® patents pending

SEND FOR BULLETIN
AERONAUTICAL AND INSTRUMENT DIVISION

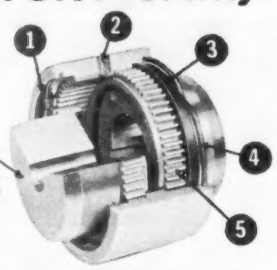
Robertshaw-Fulton CONTROLS COMPANY

SANTA ANA FREEWAY AT EUCLID AVENUE • ANAHEIM, CALIFORNIA

▲ For more details circle **NED-922 D8** on enclosed inquiry slip ▲

the "INSIDE STORY" of why

Sier-Bath FLEXIBLE GEAR COUPLINGS are your best buy!



Simplicity is the answer. One-piece sleeve eliminates flanges and bolts, cuts weight in half, decreases size three-fifths, increases hp capacity. The result? Lighter, more compact equipment . . . reduced power consumption . . . less wear . . . no "freeze-up" . . . no special tools needed . . . increased safety . . . long, life at lower costs.

1. Steel Sleeve is one piece. Internal teeth run full working length. No flanges and bolts.
2. Grease Plugs are set at 180° for relubrication without dis-assembly.
3. Seals of neoprene and asbestos keep out foreign matter, retain lubricant. Guaranteed for 400° F
4. Snap Rings securely hold coupling together. Simple to install and remove. Withstand 50,000 lbs. end-thrust.
5. Gear Teeth are closely spaced, precision cut, smaller for even load distribution, greater capacity, longer life.
6. Steel Hubs are externally geared, have 90,000 lbs. tensile strength.

For the complete story ask us to send you our Catalog C-5

Sier-Bath GEAR and PUMP CO., INC.
FLEXIBLE COUPLING DIVISION
9242 Hudson Blvd., North Bergen, N. J.
Founded 1905 Member A.G.M.A.

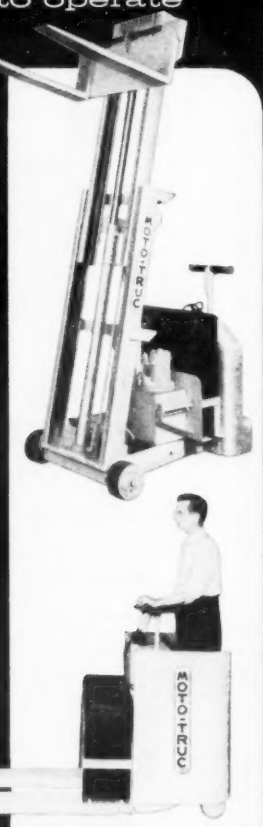
Visit Booth 677, Design Engineering Show, Chicago — April 14-17

For more details circle NED-924 D8 on enclosed inquiry slip

Walkie Or Small Rider

MOTO-TRUCS COST LESS

. . . to buy . . . to operate

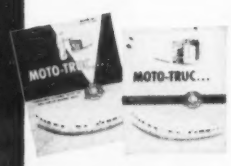


■ You can buy MOTO-TRUCS at prices well below those of other comparable models. Yet, in spite of their lower first cost, MOTO-TRUCS provide greater material handling efficiency at lower operating cost than competitive trucks.

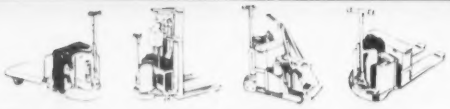
This important two-way saving is the direct result of simple, rugged construction . . . the use of sound engineering principles — free of complicated mechanisms, fancy gadgets and frills which simply add to the price and are costly to maintain, but add nothing to the efficiency of the truck.

Because MOTO-TRUC is the world's largest manufacturer of walkie and small rider type trucks, you can be sure there is a model to meet your handling needs. Be sure to investigate this money saving line of battery powered industrial trucks before you buy.

• MOTO-TRUC builds a complete line of pallet trucks, low and high lift platform trucks, fork trucks, outrigger trucks, straddle trucks, tractors and special models. Write for complete information.



Ask for: Catalog 56W on walkie trucks
Catalog 56R on Ride-A-Man models



Largest Exclusive Manufacturers of "Walkie" and "Ride-A-Man" Trucks

The MOTO-TRUC Co.
1961 EAST 59th ST. • CLEVELAND 3, OHIO

For more details circle NED-925 D8 on enclosed inquiry slip

New Literature & Catalogs

Magnetic & Vacuum Chucks

O. S. Walker Co.—The Walker line of electromagnetic, permanent magnetic, and vacuum chucks, demagnetizers, chuck control equipment, and related equipment is described and specified in 20-page Catalog 58. Rectangular, swiveling, apex swivel, and rotary electromagnetic chucks are covered. Section on chuck control equipment provides data for proper selection.

For more details circle NED-926 D8 on enclosed inquiry slip

Alumina Ceramics

Diamonite Products Mfg. Co.—File folder entitled, "Diamonite High Alumina Ceramics," presents properties and application information on oxide cutting tools, grinding media, electronic structures, heat resistant parts and refractories, electrical insulations, wear and abrasion resistant parts, and corrosion resistant parts. Inserts in folder are data sheets on custom shapes and other high alumina ceramics.

For more details circle NED-927 D8 on enclosed inquiry slip

Materials Handling Equipment

Heppenstall Co.—Entitled "Everything that Hangs from the Crane Hook," 24-page catalog contains full details of automatic and motorized tongs for lifting materials of any shape, weight, or size, as well as sheet lifters, rack lifters, motorized rotating hooks, C-hooks, and other hooks. Nearly 100 items, ranging from tiny automatic tongs to massive equipment that will lift many tons, are covered.

For more details circle NED-928 D8 on enclosed inquiry slip

Plastic Components

General Insulate Co.—Facilities brochure outlines, through plant photographs, the services offered by this company. Typical molded insulating parts produced include switchgear, electronic and radio, and instrument components, as well as special molded inserts, threads, and product parts.

For more details circle NED-929 D8 on enclosed inquiry slip

Packings, Gaskets & Seals

Garlock Packing Co.—A wide variety of packings, gaskets, and seals, their materials of construction, and their uses are related in Packing Handbook AD-162. Table lists the effect of various gases, liquids, and solvents on packing materials ranging from synthetics to metals. All types are covered as to materials, applications, and available forms and sizes.

For more details circle NED-930 D8 on enclosed inquiry slip

Industrial Overhead Doors

Barber-Colman Co.—Weather-King door panels, electric operators, cam-action closing hardware, remote radio controls, and special controls for commercial and industrial overhead doors are described and shown in 16-page Catalog F 1406-17. Weather-King flush overhead door sections combine heat-insulating sandwich construction with weatherproof facing.

For more details circle NED-931 D8 on enclosed inquiry slip

STOP ELECTRICAL TROUBLES before they begin with the COLUMBIA VOLT-AMMETER

Know how much current your equipment is pulling . . . spot overloads and short-circuits . . . balance loads . . . minimize electrical hazards. Columbia Type AC-1 Volt-Ammeter saves time, gives accurate readings up to 600 amperes and 600 volts on frequencies from 25 to 400 cycles. Conveniently sized, easy to use. Switch allows operator to quickly select AC ranges: 0/12/60/120/600 amperes; 0/150/600 volts. Readings are taken without circuit interruption. Insulated jaws accommodate conductors up to 1½" diameter or bus bars to 2" x ½".

$57.50 with Voltage Leads and Carrying Case

Write today for Bulletin AC-25 Immediate Delivery

COLUMBIA ELECTRIC MFG. CO.
4525 Hamilton Ave.
CLEVELAND 14, OHIO

For more details circle NED-932 D8 on enclosed inquiry slip

Shuts Doors, Windows, Stops Conveyors, Sounds Alarm.....

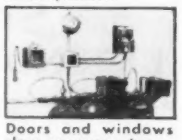
KILLS TOUGH FIRES!

Randolph EXTINGUISHING SYSTEMS

Where fire hazards are severe and access limited . . . play safe! Be ready and secure with a *fast action* Randolph Automatic Fire Extinguishing SYSTEM!

Write today for Randolph's free FIRE HAZARD INDEX listing equipment safeguards for 580 typical fire hazards. Randolph Laboratories, Inc., 7 East Kinzie Street, Chicago 11, Illinois.

A fire! Detector "triggers" entire system . . .



Doors and windows close, conveyors stop . . .

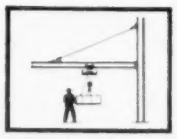
"CYCLONE" nozzles flood entire room with CO_2 in 15 seconds.

For more details circle NED-933 D8 on enclosed inquiry slip

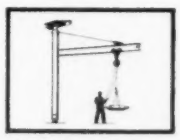
MOTOR DRIVEN or HAND OPERATED

CONCO JIB CRANES

Where space and budget are both limited, CONCO self-supporting, wall and mast-type jib cranes have a wide application—on the loading platform, in the warehouse, machine shop or foundry. CONCO jib cranes may be furnished with CONCO hand or electric hoists and are available with floor plate or embedded mounting.



CONCO wall bracket jib crane



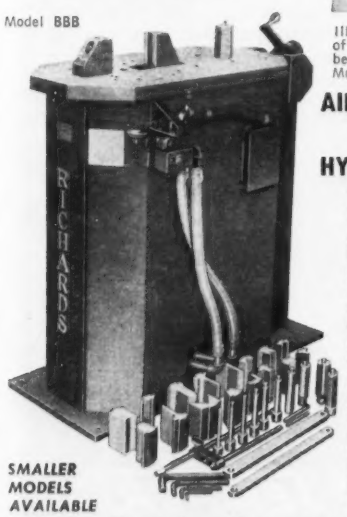
CONCO mast-type jib crane

CONCO ENGINEERING WORKS
Division of H. D. CONKEY & COMPANY
57 Grove Street • Mendota, Illinois
AFFILIATES Conco Engineering Works-Domestic Heating Equipment
Conco Building Products, Inc., Brick, Tile, Stone

For more details circle NED-934 D8 on enclosed inquiry slip

Multiform BIG BROTHER BENDER

Model BBB



SMALLER MODELS AVAILABLE

Illustrated above are a few of the many forms that can be produced efficiently on the Multiform Bender.

AIR OPERATED MODELS IN FOUR SIZES
HYDRAULIC—3 MODELS

The heavy duty Big Brother Bender is designed for fabricating bus bars, brackets, fixtures, etc., without special tooling. Air controlled with finger tip response. Comes complete with dies, mandrels and wrenches—punching and blanking dies extra. Will punch holes up to 1" and form material up to ¼" thick by 4" wide. We also build smaller models, hand or air operated, for bending materials up to ⅛" x 1½".

Send for illustrated folder M6

J. A. RICHARDS CO. Myrtle & Pitcher Sts. Kalamazoo, Mich.

For more details circle NED-935 D8 on enclosed inquiry slip

This Rodgers Platen Press Draws

800 STEEL HOUSINGS A DAY

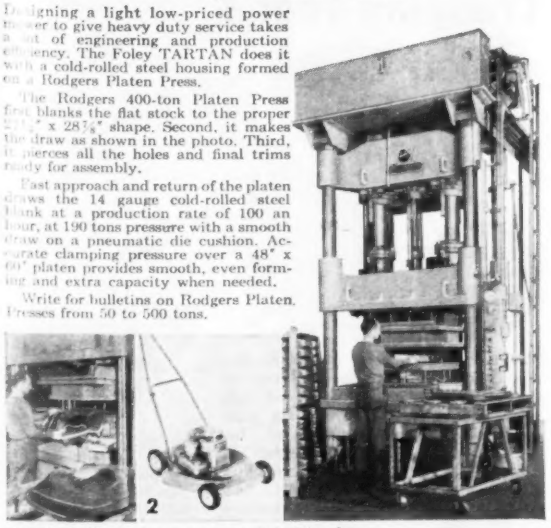
for Foley Power Mowers

Designing a light low-priced power mower to give heavy duty service takes a lot of engineering and production efficiency. The Foley TARTAN does it with a cold-rolled steel housing formed on a Rodgers Platen Press.

The Rodgers 400-ton Platen Press first blanks the flat stock to the proper 27½" x 28⅞" shape. Second, it makes the draw as shown in the photo. Third, it pierces all the holes and final trims ready for assembly.

Fast approach and return of the platen draws the 14 gauge cold-rolled steel blank at a production rate of 100 an hour, at 190 tons pressure with a smooth draw on a pneumatic die cushion. Accurate clamping pressure over a 48" x 60" platen provides smooth, even forming and extra capacity when needed.

Write for bulletins on Rodgers Platen Presses from 50 to 500 tons.



1 **Rodgers Platen Press** turns out 100 Foley lawn mower housings per hour of 14 gauge cold-rolled steel.
2 This is the Foley TARTAN, an economy 1¾ HP rotary lawn mower with a heavy duty steel housing blanked, drawn and pierced on a Rodgers 400 ton platen press.

HYDRAULICS Rodgers KEEP THE WORLD MOVING

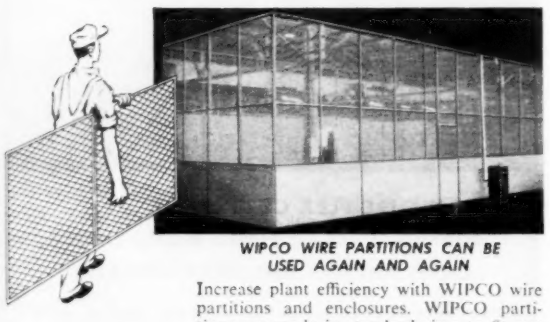
Rodgers Hydraulic Inc.

7425 Walker St., Minneapolis 26, Minn.

▲ For more details circle **NED-936 D8** on enclosed inquiry slip ▲

WIPCO WIRE PARTITIONS

cost less to erect and maintain



WIPCO WIRE PARTITIONS CAN BE USED AGAIN AND AGAIN

- STOCK ROOMS
- TOOL ROOMS
- DEPARTMENTAL DIVISIONS
- EXPERIMENTAL ROOMS
- CORRIDORS
- RUNWAYS

Increase plant efficiency with WIPCO wire partitions and enclosures. WIPCO partitions are made in standard sizes to fit any requirement. Each section is a complete unit ready for erection, and your own men can easily put up WIPCO partitions without outside help. Use them over and over again, wherever and whenever you need them.

Easy to paint and clean, WIPCOs allow maximum circulation of air for heating and ventilating purposes. Use low cost WIPCO partitions for greater flexibility and more efficient plant layout. Write for bulletin No. P-52 today!

WIPCO **WIRE AND IRON PRODUCTS INC.**

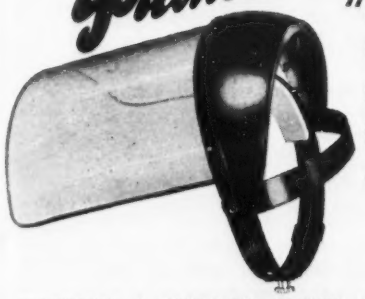
1727 SIXTEENTH STREET DETROIT 16, MICHIGAN

▲ For more details circle **NED-937 D8** on enclosed inquiry slip ▲

HERE! NOW! TOMORROW'S ANSWER TO

TODAY'S SAFETY REQUIREMENTS

Pulmosan



"NEW CONCEPT" FACE SHIELD

SERIES PS 100

FEATURING 8 PRACTICAL POINTS OF SUPERIORITY

- Headframe of unbreakable, soft plastic.
- Reinforced all-plastic spark deflector.
- Smooth, positive slide adjustment — 6-8½ headsize
- Foam Rubber snap in-out sweatband.
- Extra-wide acetate visor with new snap fastener.
- Plastic bound visors.
- More room between face and visor.
- Featherweight — rugged — durable.

PULMOSAN STOPS *Accidents*

Pulmosan

SAFETY EQUIPMENT CORPORATION

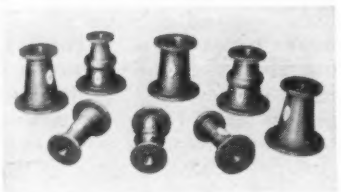
644 Pacific Street, Brooklyn 17, N. Y., STerling 9-0200
1007 Washington Ave St. Louis, Mo., CHestnut 1-9393

Write for complete descriptive literature, replacement parts list and prices on Series PS 100 (illustrated) and Series 200, 500 and 600 Face Shields.

▲ For more details circle **NED-938 D8** on enclosed inquiry slip ▲

New Processes & Materials

RUBBER PIPE & JOINTS
for expansion in flexible pipe



Usable as flexible pipelines in pressure and vacuum systems handling water, brine, gases, and chemicals, line of rubber expansion joints and flexible pipe includes sizes from ½ in. to 72 in. ID. Three styles are available for vacuum operation, for pressure service, and for vacuum and pressure operations. Standard pieces can be used at temperatures to 180° F, pressures to 150 psi, and vacuums to 30 in. Hg. Expansion joints are offered in standard straight-through or reducing types, with either flanges or slip-over pipe ends. Made by **General Rubber Corp.**, 40 Summit St., Tenafly, N. J.

▲ For more details circle **NED-939 D8** on enclosed inquiry slip ▲

RELEASE PAPER
for products having tacky surfaces

Chemically treated release paper is designed to overcome problems encountered in the production and utilization of products having tacky surfaces. It separates readily from items at the time of application. It is being used successfully as a backing for pressure-sensitive adhesive-coated fabrics, plastics, paper, rubber, tile, and tapes. It is also applicable as a release liner during rubber curing, to interleaf rubber and asphalt products, and with strip sealers. It is available coated on one or both sides. Made by **Daubert Chemical Co.**, Dept. NED, 333 N. Michigan Ave., Chicago 1, Ill.

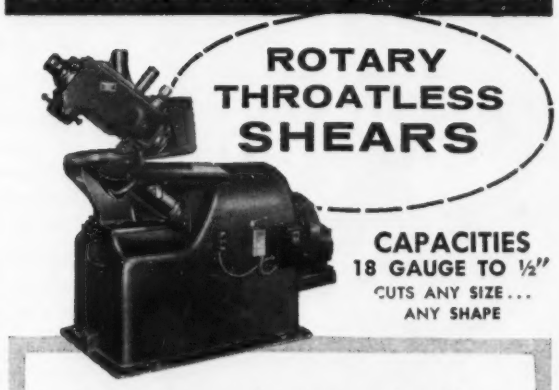
▲ For more details circle **NED-940 D8** on enclosed inquiry slip ▲

INTERNAL FIN TUBE
for heat exchanger applications

This Karbate impervious graphite tube has 23 internal helical fins, each 3/16 in. high, which increase the surface to 2.6 times that of plain ⅞-in. ID tube. This makes possible the design of heat exchangers with up to one-half the number of tubes normally required in corrosive services where internal heat transfer coefficient is low and limiting. Finned tubes can be used to replace plain tubes in existing equipment to give greater capacity. This 1¼-in. OD finned tube is available in 6, 9, 12, 14, and 16-ft lengths. Made by **National Carbon Co.**, Dept. 1325, 30 E. 42nd St., New York 17, N. Y.

▲ For more details circle **NED-941 D8** on enclosed inquiry slip ▲

MARSHALLTOWN



ROTARY THROATLESS SHEARS

CAPACITIES
18 GAUGE TO ½"
CUTS ANY SIZE... ANY SHAPE

America's finest for every cutting job — straight, irregular or circular patterns.

Speedy—up to 6 ft. per minute. Efficient, easy to operate.

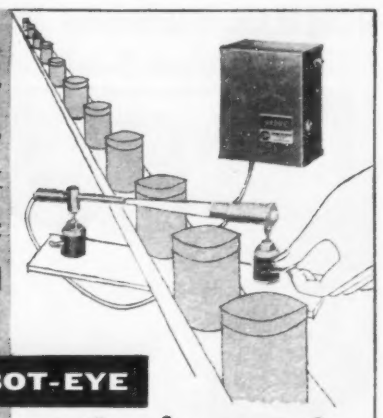
Built for extra heavy duty use. High grade tool steel cutters.

Write Today for Details and Prices

MARSHALLTOWN MFG. COMPANY
MARSHALLTOWN 2, IOWA

▲ For more details circle **NED-942 D8** on enclosed inquiry slip ▲

versatile, miniaturized, low-cost photo-electric control



ROBOT-EYE

counts, sorts, inspects for only $65!

Control your production the modern way — **photo-electrically.** Use Robot-Eye to cut waste, insure accuracy in plant operation.

Accurate — follows most rapid operations.
Trouble-Free — Proven for years in industry.
Easily-Installed — with universal mount.
Miniaturized — for use in smallest space.

To learn how Robot-Eye can help cut **your** production costs, write for Brochure BP-4

standard INSTRUMENT CORP.
657 BROADWAY
NEW YORK 12, N.Y.

▲ For more details circle **NED-943 D8** on enclosed inquiry slip ▲

SONOPATCH

Repairs floors in minutes without interfering with production!

- INSURES AGAINST ACCIDENTS DUE TO HOLES, RUTS, CRACKS
- READY TO USE!
- SIMPLE TO APPLY
- NEEDS NO PRIMER!
- JUST MIX WITH WATER AND POUR IN PLACE!
- WON'T SHRINK—BONDS FIRMLY!

SONOPATCH is a quick, easy-to-use, fast-setting floor repair material that can be trucked over within one hour after patching. It attains a compressive strength that will support loads up to 10,000 lbs. . . . to maintain constant traffic flow and production.

SONOPATCH is a non-bituminous hydraulic material which combines with water to form an ideal rigid patching compound.

Use SONOPATCH for: Repair of holes and cracks in concrete floors; setting of anchor bolts for light machinery; anchoring of hand rail supports; and a hundred other jobs!

A Product of Sonneborn RESEARCH

For over 50 years manufacturers of quality building products

MAIL COUPON FOR MORE FACTS

L. SONNEBORN SONS, INC.
Building Products Division, Dept. N-4,
404 Fourth Ave. New York 16, N. Y.

☐ Yes, send full information on SONOPATCH.
☐ Also send FREE copy of your 128-page Building Construction and Maintenance Handbook.

NAME.....
COMPANY.....
ADDRESS.....
CITY.....ZONE.....STATE.....

▲ For more details circle **NED-944 D8** on enclosed inquiry slip ▲

HOFFMAN DIAMOND BITS DOUBLE "Juicer-Bowl" PRODUCTION

Juicer-bowl production is doubled by using Hoffman Thin Wall Bits to drill 5/8" spout hole, 11/16" center hole and 64 taper all on one production set-up.

"Twice the bit life plus a better finished product." This report from a large glass manufacturer is repeated wherever Hoffman Thin Wall Diamond Bits are used for tough, precision drilling of glass, ceramics, quartz, concrete, etc. Impregnated or oriented diamond surface set, Hoffman Bits can solve your production problems too.

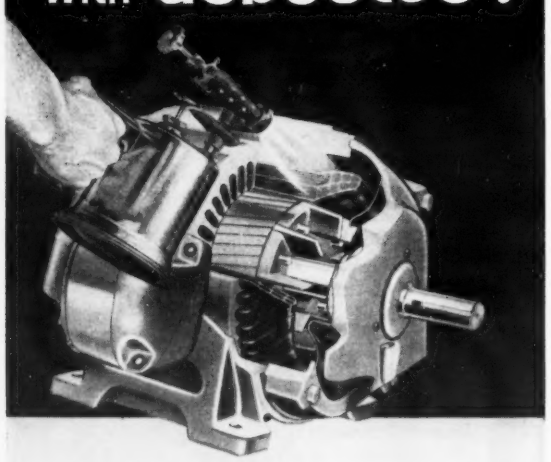
Write for Literature and Prices—FREE

HOFFMAN BROS. DRILLING CO.
SINCE 1902
106 CEDAR ST., PUNXSUTAWNEY, PENNA.

▲ For more details circle NED-945 D8 on enclosed inquiry slip ▲

only U.S. MOTORS

insulates all windings with asbestos!



your best protection

...against motor burn-out and production shutdowns

Only U.S. offers this protection! *All* windings insulated with asbestos—nature's million-year-old insulating material that *cannot carbonize!* Many motor makers use varnished paper, cloth, press-board and other materials that carbonize and burn. Only the original, patented U.S. ASBESTIC PROCESS gives you: (1) *Heat resistance*...can't carbonize, (2) *heat conductance* better than any cellulose material, and (3) *moisture resistance* due to exceptional impregnation and coating of windings. Protect against costly production shutdowns due to motor burn-out! Always specify: "U.S. MOTORS."

U.S. ELECTRICAL MOTORS INC.

BOX 2058, LOS ANGELES 54, CALIF. OR MILFORD, CONN.

FREE COLOR-ILLUSTRATED BROCHURES... *For specific data on asbestos protection, write for General and Type H Unclosed Bulletins.*

▲ For more details circle NED-946 D8 on enclosed inquiry slip ▲

New Literature & Catalogs

Chemical Treatments of Metals

American Chemical Paint Co.—Various chemical conversion coatings for steel, aluminum, galvanized iron, zinc, and cadmium plated surfaces, and for corrosion resistance, paint bonding, drawing and forming, and protection for friction surfaces are described in 8-page Form 1413A. It also lists current specification chemicals for the Government and its contractors.

▲ For more details circle NED-947 D8 on enclosed inquiry slip ▲

Pyrometer Supplies

Minneapolis-Honeywell Regulator Co., Industrial Div.—Base metal, small mass, noble metal, and special purpose thermocouples; mounting attachments; thermocouple components; charts; and inks are among pyrometer supplies listed in 52-page buyers' guide G100-8. General information section includes thermocouple theory and practice, as well as selection data. Thermocouples feature butt-welded measuring junction construction.

▲ For more details circle NED-948 D8 on enclosed inquiry slip ▲

Speed Reducers & Gears

Grant Gear Works, Inc.—180-page ring-bound Catalog 80 on speed reducers and gears provides sizes, ranges, capacities, and types available. Reducer section covers eight basic types available in worm and gear, single and double reductions, and helical and miter gear with reduction ratios up to 3660 to 1.

▲ For more details circle NED-949 D8 on enclosed inquiry slip ▲

Abrasive Cutoff Wheels

Guidance on abrasive cutoff equipment and techniques is given in three booklets entitled "Why Do Abrasive Cut-Off Wheels Fail?", "Which Abrasive Cut-Off Wheel Is the Right Wheel?", and "A Manual of Processes for Abrasive Cut-Machining of Metals." All three are available for $2.00 plus mailing cost from Wallace Supplies Mfg. Co., 1300 Diversey Parkway, Chicago 14, Ill.

▲ For more details circle NED-950 D8 on enclosed inquiry slip ▲

Metallic Power Rectifiers

Sel-Rex Corp.—Widely varied applications for metallic power rectifiers utilizing germanium, silicon, and selenium semiconductors are covered in 32-page guide. These include anodizing, battery charging, electrocleaning, electroplating, power supplies, and semiconductor power conversion for operation of electrolytic cells.

▲ For more details circle NED-951 D8 on enclosed inquiry slip ▲

Lock Nuts & Fasteners

Palnut Co.—Product descriptions, illustrations, dimensions, screw tension figures, materials, finishes, and typical applications relative to Palnut lock nuts and fasteners are provided in 28-page catalog. It also details design and locking principle, high-speed wrenches and applicators, assembly, and cost data.

▲ For more details circle NED-952 D8 on enclosed inquiry slip ▲

The Tool EVERYONE Wants!

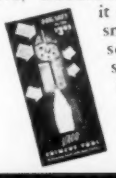
No. 1902

Crimping Tool & Bolt Cutter

by VACO

Only $3.95 mechanics' net

Mechanics everywhere praise the new No. 1902 for its on-the-job convenience. Not only does it cut and strip wire and crimp terminals for positive, trouble-free connections... but it shears all popular size small bolts and machine screws *perfectly!* Just squeeze... no de-burring necessary. A perfect job every time.



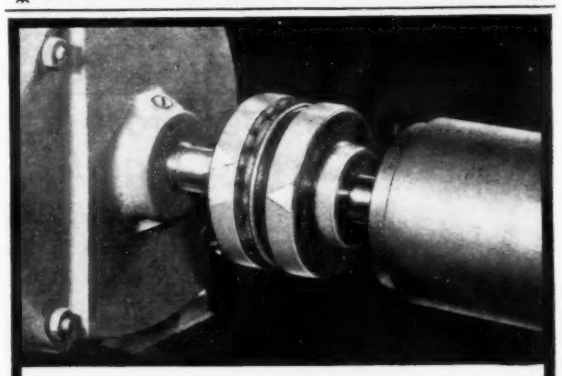
Plastic Service Kit No. 2090 Contains No. 1902 Tool plus 10 popular terminal numbers in FREE plastic compartmented box. $8.90 complete!

Look for the No. 1902 in the Red, White & Blue Display Carton

At Your Jobber or Write To:

VACO PRODUCTS CO., 317 E. Ontario St., Chicago 11, Ill.
In Canada: Vaco Lynn Products, Ltd., Montreal 1, Que.

▲ For more details circle NED-954 D8 on enclosed inquiry slip ▲

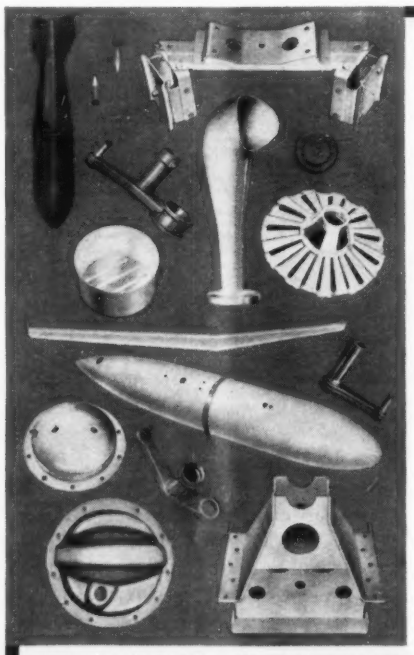


NEW SURE-FLEX COUPLINGS ABSORB 5 TO 15 TIMES MORE SHOCK, BOOST MOTOR AND MACHINE LIFE

New Sure-Flex Couplings have exceptional torsional flexibility . . . assuring greater absorption of shock and vibration . . . resulting in longer motor and machine life. They withstand all combinations of misalignment and end-float, are simply designed, easily installed and unaffected by abrasives, dirt or moisture. There is no wear, no need for lubrication or maintenance. Write for Bulletin No. 10100.

T. B. WOOD'S SONS COMPANY
CHAMBERSBURG, PENNSYLVANIA
CAMBRIDGE • NEWARK • CLEVELAND • DALLAS • ATLANTA

▲ For more details circle NED-955 D8 on enclosed inquiry slip ▲



They're all Parish products. Large parts and small ones, steel or nonferrous metals. Parish has the experience and facilities that will produce a maximum amount of product per dollar.

Need help to produce a problem part?

• Then take those parts to Parish. It has an enviable record of turning out problem parts. From Howitzer carriage weldments to missile motors . . . to practice bombs and land mines . . . to pylon tanks and gun carriages . . . Parish builds hundreds of parts for industry and government.

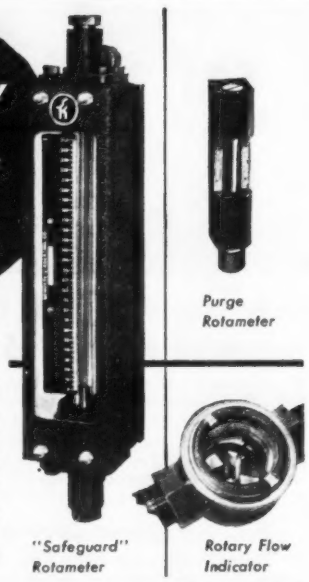
Whatever the operation—heat-treating, welding, machining or metal stampings—Parish has the men and machines to do the job.

Parish has the unique combination of engineering experience, production know-how and special equipment needed. Modern thinking contributes to the Parish policy of producing what the customer wants . . . on time . . . at a lower cost wherever possible. Send a drawing of the part you want produced to Parish Pressed Steel Division of Dana Corporation, Box 1422, Reading, Pa.

PARISH
PRESSED STEEL
Division of Dana Corporation / Reading, Penna.

▲ For more details circle NED-953 D8 on enclosed inquiry slip ▲

FAST DELIVERY on Rotameters and Flow Indicators



SK makes a complete line of Rotameters and Flow Indicators. For quick delivery the company stocks popular types and sizes. If you need action fast, contact us stating your requirements. We'll let you know if a stock item is available and, if not, what we can do to expedite delivery. Call us at Cornwells Heights, Bucks County, Pa., "MErcury 9-0900" or contact us by TWX, "Cornwells, Pa., 69." Ask for the INSTRUMENT DIVISION.

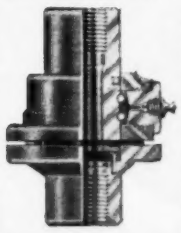
SK's complete line of Rotameters for accurately measuring fluid rate of flow and Flow Indicators for indicating flow are briefly described in Bulletin M-1. Write for your copy.

Schutte and Koerting COMPANY
INSTRUMENT DIVISION
2227 STATE ROAD, CORNWELLS HEIGHTS, BUCKS COUNTY, PA.

For more details circle NED-956 D8 on enclosed inquiry slip

NOW-
A TROUBLE-FREE SWIVEL JOINT FOR HOT GAS AND STEAM SERVICE...
THE CHIKSAN DISCPAK

New design permits changing packing without removing joint from the line.



Created specifically for service on lines employed in steam and hot gas service, the new Discpak has a temperature rating of 600°F., a pressure rating of 300 psi. Disc-seal housed between two sections of the swivel joint provides a fluid tight seal. Discpaks installed by customers unable to keep previous joints operating effectively for more than 3 months have been in service for over a year with no report of product failure. Write for literature and prices today.

Send for Bulletin DP100

CHIKSAN COMPANY
Brea, California; Chicago 5, Illinois; Newark 2, New Jersey
Subsidiaries: Chiksan Export Co., Chiksan of Canada Ltd.

For more details circle NED-957 D8 on enclosed inquiry slip

DELIVERY TODAY

of Popular General Electric Heaters and Devices

Now you can get popular G-E heaters and devices from stocks near your plant.

NO WAITING: A new General Electric stocking plan means you get quick delivery from local distributors whenever you need the convenience of fast, clean electric heat. Vital equipment can be restored to operation promptly. Favorite "do-it-yourself" heating projects can be completed without delay. You can get the General Electric heater you need—right at the time you need it.

TELEPHONE: Call your General Electric Apparatus Sales office today for the name of your G-E stocking distributor for heaters and devices. Section 723-19, General Electric Co., Schenectady 5, N. Y.

GENERAL ELECTRIC

For more details circle NED-958 D8 on enclosed inquiry slip

New Processes & Materials

CONCRETE PATCHING MATERIAL is mixture of latex and powder

Suitable for use indoors or out, Latex Concrete Patch can be used to repair cracks, holes, and spalls in concrete walls and floors. It is also usable for nonshrink pointing of joints and cracks in all kinds of masonry. Package consists of 40 lb of powdered premix and 1 gal of latex liquid in a tapered steel container. When mixed together, these materials form a cement-colored, mortar-like, masonry patching material that has superior bonding properties and eliminates the need for chipping or edge squaring of areas to be patched. Made by **Flintkote Co.**, Industrial Products Div., Dept. D1, 30 Rockefeller Plaza, New York 20, N. Y.

For more details circle NED-959 D8 on enclosed inquiry slip

POLYESTER LAMINATING FILM adheres to almost any surface, is suited for machine packaging

Available for direct or stretch-laminating applications in the textile, metal, wood, paper, plastic, automotive, and packaging fields, Videne A is an unoriented, amorphous, thermoplastic material which cannot be crystallized. It can be adhered under heat and pressure to textiles, metal, wood, paper, and certain plastics without adhesives.

It will vacuum form or draw to the limits of the supporting materials. It can also be laminated to glass, leather, and natural and synthetic fabrics. In this application, it intensifies background colors and provides a protective surface. On wood, it brings out depth of grain and eliminates the need for varnish or lacquer. Because of its electrical insulation properties, it can be used as a laminate on tissue-thin papers and on fabrics.

Heat-sealing and shrinkable qualities adapt it for wide range of transparent packaging needs. Strength and flexibility permit its use on high speed packaging machines, and it will withstand freezer temperatures. It can be shrunk up to 50 per cent of its original area so that it conforms to irregular products or surfaces. Made by **Goodyear Tire & Rubber Co.**, 1144 E. Market St., Akron 16, Ohio.

For more details circle NED-960 D8 on enclosed inquiry slip

DEGREASER! machinery shampoo

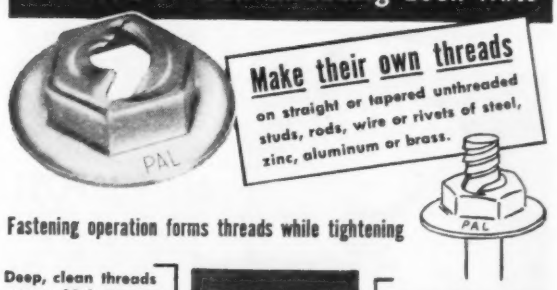
SPRAY OR BRUSH ON...

Takes cling out of oil and grease . . . emulsifies it . . . so that all dirt may be hosed off. Launders engines, lathes, machinery, faster, more completely than steam cleaning. Self scouring action brings out factory new appearance . . . provides accurate visual inspection. Where work will not withstand the use of water for rinsing, we can recommend suitable GUNK© replacement. (GUNK is also an excellent paint brush cleaner.) Shipped in concentrated form . . . 55 gal. drum makes 500 gals. heavy-duty Degreaser! Genuine GUNK is sold in bulk sizes at better industrial wholesalers everywhere!

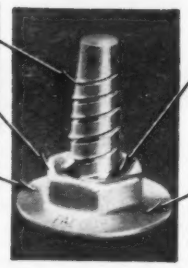
THE CURRAN CORPORATION
(Home Office) South Canal St. LAWRENCE, MASSACHUSETTS ← Plants → GUNK Chicago Company Chicago 38 (Licensee)
IMMEDIATE SHIPMENT 1 PINT OR A TANK CAR

For more details circle NED-961 D8 on enclosed inquiry slip

PALNUT® Self-threading Lock Nuts



Fastening operation forms threads while tightening



Deep, clean threads assure high torque and tensile values.

Hex form fits all standard tools and shanks.

Resilient washer face spans holes and slots.

May be removed and re-used on same studs.

Thread-forming teeth exert powerful vibration-proof grip on studs.

Full contact (360°) on work surfaces, flat or irregular, on perpendicular or off-angle studs.

PALNUT Self-threading nuts are made of spring-tempered steel, comprising a thread-forming lock nut and flat washer in one piece. Available for 1/8", 3/16" and 1/4" unthreaded studs or rod, in various washer diameters. Write for free samples and literature.

THE PALNUT COMPANY, 45 Glen Rd., Mountainside, N. J.
In Canada: P. L. Robertson Co., Ltd., Milton, Ont.

For more details circle NED-962 D8 on enclosed inquiry slip

New A. B. Dick Photocopy Duplicator

A·B·DICK®
DUPLICATING PRODUCTS

For More Information mail coupon. Or call your distributor of A. B. Dick products. He's listed under Duplicating Products in the classified section of your phone book.

A. B. DICK Company, Dept. NED-48
5700 West Touhy Avenue, Chicago 31, Illinois

*Name*_____
*Position*_____
*Company*_____
*Address*_____
*City*_____ *Zone*____ *State*____

For more details circle NED-963 D8 on enclosed inquiry slip

TIME YOUR TESTS IN SPLIT-SECONDS!

GRA LAB

ALL PURPOSE INDUSTRIAL TIMERS

MODELS AT $23.95 TO $29.95

You can set the large 8" dial for any desired time period within an unusually wide range of 3600 possible settings, (i.e., 1 sec. to 60 min., 1 min. to 60 hrs., etc.). At end of preset interval, alarm sounds and external load is automatically switched on or off.

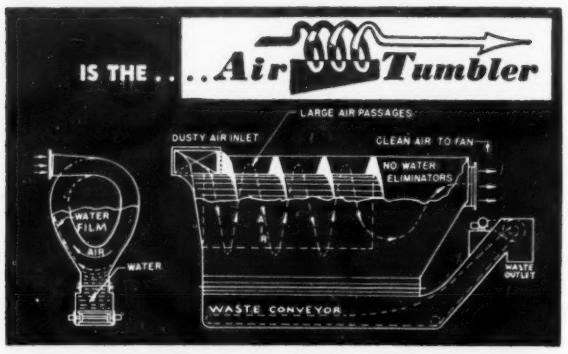
Gra-Lab Micro Timers, **Electric Stop Clocks**, are available in 1/10 sec. or 1/1000 min. graduations for split-second measurements of elasped time in laboratory or production operations, Price $37.50

WRITE FOR COMPLETE CATALOG!

DIMCO-GRAY COMPANY 203 E. Sixth St. DAYTON 2, OHIO

▲ For more details circle NED-967 D8 on enclosed inquiry slip ▲

The MASTER of DUST in INDUSTRY



SIMPLE—DEPENDABLE—NO FIRE HAZARD
HIGH EFFICIENCY—CONSTANT CAPACITY
LOW HUMIDIFICATION—LOW OPERATING COST

More than one million CFM in ONE plant

Write for Bulletin No. 551. Address:

DUST SUPPRESSION & ENGINEERING CO.
P. O. BOX 67 • LAKE ORION, MICHIGAN

▲ For more details circle NED-968 D8 on enclosed inquiry slip ▲

Torque-wrench capacity *doubled* with new OTC e-x-t-e-n-s-i-o-n-s

Twice the torque with the same pull — because new OTC extensions double the effective length of the torque wrench. Extension snaps onto torque-wrench drive square . . . add the end you need from complete OTC selection — box-end wrenches (right) ¾" to 3½", ratchet and fixed drives in ¾, 1 and 1½ inch square drives, 15° and double-offset box wrenches.

See your OTC distributor or write

OWATONNA TOOL CO.
436 Cedar Street Owatonna, Minnesota

▲ For more details circle NED-969 D8 on enclosed inquiry slip ▲

New Literature & Catalogs

Guide to Protective Coatings

Rust-Oleum Corp. — 36-page protective coating Manual No. 257 contains actual color chips of 102 different coatings. Application information given includes methods of surface preparation, use of primers, finish coatings, and details of custom coatings to protect against specific conditions. Described are coatings for protection of practically any surface or material.

▲ For more details circle **NED-970 D8** on enclosed inquiry slip ▲

How to Mark Shipments

Marsh Stencil Machine Co.—"How to Improve the Marking and Taping of Your Shipments" is a 12-page folder. Such shipping room aids as stencil machines, stencil brushes, ink, automatic tape and label dispensers, and felt-tip marking pens are described.

▲ For more details circle **NED-971 D8** on enclosed inquiry slip ▲

Die Component Tracing Templates

Northwestern Tools, Inc.—12-page "Tracing Template" contains over 200 exact-size line drawings of components for jigs and fixtures. This aid for designers and draftsmen facilitates drawing of toggle shoe clamps, hand knobs, spherical washers, studs, V-pads, T-slot nuts, jig feet, and latch bolts.

▲ For more details circle **NED-972 D8** on enclosed inquiry slip ▲

Air-Operated Chucks

Cushman Chuck Co.—Condensed Catalog PO-65C contains complete pricing and specifications on air-operated chucks, cylinders, and accessories. Types described include serrated adjustable jaw, manufacturing type, wedge operated, compensating jaw, collet, and gib type chucks. Details are given on rotating air cylinders, soft blank top jaws, valves, lubricator, draw bars, and plunger shanks.

▲ For more details circle **NED-973 D8** on enclosed inquiry slip ▲

Good Gaging Practices

Rite-O Tool & Gage Co. — 16-page illustrated "Rite-O Gage Primer & Price List" discusses good gaging practices involving plain and thread plug and ring gages. Work, gage, and wear tolerances; gaging policies; standard gage dimensions; and pricing practices are covered.

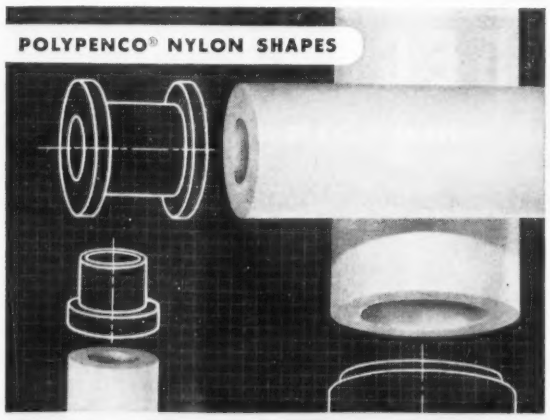
▲ For more details circle **NED-974 D8** on enclosed inquiry slip ▲

Wholesale Plumbing & Electric Supplies

A. R. Webber Co.—Complete lines of heating, plumbing, and air conditioning supplies; plumbing fixtures; lighting fixtures and electrical supplies; construction, hand, and power tools; and custodial and maintenance equipment are described and priced in 160-page Catalog No. 20. Departmentalized for easy reference, this guide is offered free to industrial production and maintenance managers and purchasing agents.

▲ For more details circle **NED-975 D8** on enclosed inquiry slip ▲

POLYPENCO® NYLON SHAPES



Design starts here...with the proper nylon stock shape

Designers specify Polypenco nylon tubular bar to eliminate drilling, reduce stock costs, and to gain the unvarying high quality that assures uniform density and controlled physical properties.

Polypenco nylon is also available in rod, strip, and plate for quick, low cost fabrication into parts with these specific advantages:

Wear Resistance
Resilience
Excellent strength to weight ratio
Low coefficient of friction
Noise dampening
Abrasion resistance and non-galling
Chemical resistance
Good electrical insulating properties

Polypenco nylon stock shapes are immediately available from warehouses throughout the country. For fabrication of parts, The Polymer Corporation of Penna. maintains a special fabricating service. Write for data on products or services.

THE POLYMER CORPORATION OF PENNA.
READING, PENNA.
Export: Polypenco, Inc., Reading, Penna., U.S.A.

POLYPENCO

POLYPENCO nylon, POLYPENCO Teflon†, NYLAFLOW® and NYLATRON® GS
†DU PONT TRADEMARK

▲ For more details circle NED-976 D8 on enclosed inquiry slip ▲

New "lease on life" for iron castings with Ni-Rod "55" electrode

When workers at Austell Box Board Corp. in Georgia pulled this cast iron paper stock pump for inspection, they found the inner shell chewed up by abrasion.

Scrap it? At Austell, they *repair* iron castings with Ni-Rod "55"* electrode. First, surfaces are thoroughly cleaned. Then cracks and worn areas are filled with Ni-Rod "55". No pre-heat or post heat is needed. In a short time the pump's back on the job.

HELPFUL WELDING BOOKLET

"A Handy Guide to Welding Cast Irons" illustrates the many different repair jobs you can do with Ni-Rod "55". For your copy, just write Inco.

The INTERNATIONAL NICKEL COMPANY, Inc.
67 Wall Street *Registered trademark New York 5, N. Y.

INCO Welding Products
Electrodes • Wires • Fluxes

▲ For more details circle NED-977 D8 on enclosed inquiry slip ▲

ALBION'S NEW

The smooth, husky new 06 Series swivel model with soft tread, rubber wheel.

COLD-FORGED series 06 CASTERS

Completely new and inexpensive, too! The Albion Series 06 Cold-Forged Casters were developed specifically to meet the universal need for light-medium capacity casters yet retaining many features found only in heavy duty models. Their sturdy steel top plates and yoke bases are accurately cold-forged, then heat-treated to assure longer wear. "CF" Series 06 Casters are available from stock in 3¼", 4", 5", 6" and 8" wheel diameters as well as in five individual wheel types. Either swivel or rigid models. Recommended for any practical light-medium duty application where maneuverability, dependability and economy is important.

CONSTRUCTION FEATURES
Top plate and yoke base cold forged from 3/16" steel plate, heat-treated, with 3/16" formed steel legs. Full double ball, swivel bearing with separate load and thrust raceways. King bolt is ½" hydraulically pressed steel rivet and axle is ½" diameter, hollow bolt with lock nut. ¾" or ⅝" Hyatt type roller, Oilite or plain bearings as specified. Seamless steel ⅝" or ¾" tube spanner bushing and Zerk fittings in yoke base and axle. Cadmium plated finish for lasting protection.

Special Features Available—Series 06 Casters are available with sealed swivel and/or sealed wheel bearings. Thread guards and foot operated wheel brake can be furnished on most models.

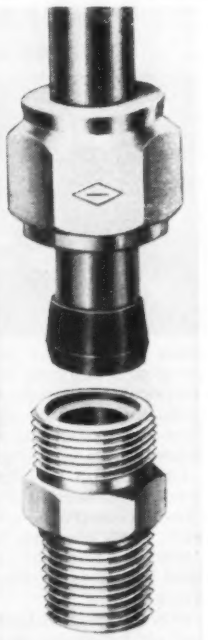
Write today for complete specifications and the new low prices on Albion's "CF" Series 06 Casters. You'll be glad you did!

ALBION INDUSTRIES, inc.
Albion, Michigan

▲ For more details circle NED-978 D8 on enclosed inquiry slip ▲

Imperial HI-SEAL
butt-joint fittings now available in:

Brass, Steel, Stainless Steel



- Make positive butt-joint
- No need to spring tubing
- Closer tube bends
- Foolproof assembly
- No flaring or threading
- Withstand higher pressures
- Meet J.I.C. and A.S.M.E. standards; listed by UL
- Write for Bulletin 3061

The most important advance in tube fittings in 20 years!

THE IMPERIAL BRASS MFG. CO.
6300 West Howard St., Dept. NED48
Chicago 31, Illinois
In Canada: 18 Hook Ave., Toronto, Ont.

IMPERIAL
Industry's most complete line of tube fittings and tubing tools
Emblem of Quality

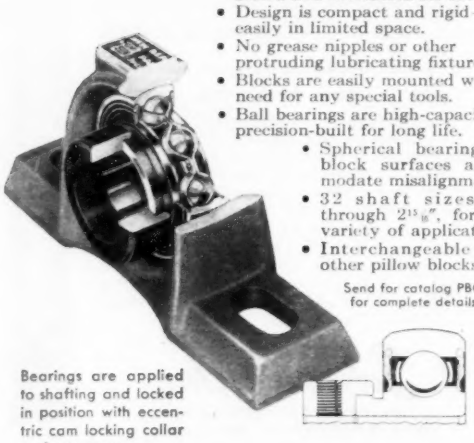
▲ For more details circle NED-979 D8 on enclosed inquiry slip ▲

NB FACTS

THE NEW DEPARTURE IN PILLOW BLOCKS

- New Departure ball bearings are sealed and lubricated for life.
- Design is compact and rigid—fits easily in limited space.
- No grease nipples or other protruding lubricating fixtures.
- Blocks are easily mounted without need for any special tools.
- Ball bearings are high-capacity, precision-built for long life.
- Spherical bearing and block surfaces accommodate misalignment.
- 32 shaft sizes, ½" through 2 15/16", for wide variety of applications.
- Interchangeable with other pillow blocks.

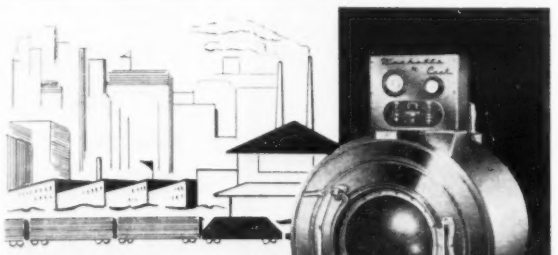
Send for catalog PBC for complete details



Bearings are applied to shafting and locked in position with eccentric cam locking collar and set screw.

NEW DEPARTURE
DIVISION OF GENERAL MOTORS • BRISTOL, CONN.

▲ For more details circle NED-980 D8 on enclosed inquiry slip ▲



Washette by Cook
AIDS AMERICAN INDUSTRY

Washette has proved its usefulness in factories, plants, mine and construction camps . . . *anywhere* laundry must be done quickly, efficiently, economically. Superb engineering, stainless steel construction, automatic controls . . . Washette gives *life-time* of trouble-free service.

Washette is America's finest open-end washer, *and the lowest priced!*

Washette by Cook is authorized to display the Canadian Seal of Approval.

Why *Washette* is America's Leading Open-End Washer
- Especially trained operators unnecessary
- Both AC and DC models available
- Fully Automatic Controls
- Parts Standard, available anywhere

FOR LITERATURE, PRICES AND DISTRIBUTORS, CONTACT
COOK MACHINERY CO., INC.
4301-T SOUTH FITZHUGH AVE. DALLAS 10, TEXAS

▲ For more details circle NED-981 D8 on enclosed inquiry slip ▲

New Processes & Materials

SELF-SPRAY ENAMEL
12 industrial colors

Dem-Kote spray enamel is offered in 12 colors, among which are those used for typical industrial finishing. Enamel is fast drying and is packaged in 16-oz pressurized cans. Paint formula and directions for applications are found on each can label. A Dem-Kote color card is available. Made by **Dayton Electric Mfg. Co.**, 124 S. Oakley Blvd., Chicago 12, Ill.

▲ For more details circle NED-982 D8 on enclosed inquiry slip ▲

VARNISH REMOVER
strips tough, thick coatings easily

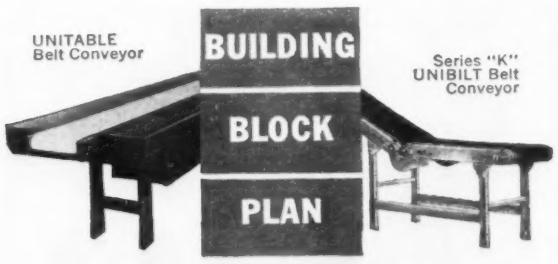
Nonflammable impregnating varnish remover will quickly and easily strip all types of varnish, regardless of toughness or thickness of coating. Accumulations up to 2 in. thick can be stripped clean in 5 hr or less. Remover works on air dried or baked varnishes. Application is by brush or dip, the latter requiring a covered steel tank large enough to accommodate the piece or pieces being stripped. Impregnating baskets, paint hooks, screens, oven floors, transformer leads, and electronic equipment are typical products which can be stripped. Remover is available in 1 and 5-gal cans and 55-gal drums. Made by **London Chemical Co.**, Dept. NDC, 1535 N. 31st Ave., Melrose Park, Ill.

▲ For more details circle NED-983 D8 on enclosed inquiry slip ▲

VACUUM CLEANER HOSE
resists chemicals, tearing, collapse

Vacuum cleaner hose replacement is minimized with use of this Dur-A-Vac flexible heavy duty hose designed for wet or dry use. Hose is fabricated from neoprene compounded for high tensile strength and resistance to tearing and abrasion. It also resists chemicals, solvents, oils, grease, water, and heat. Spiral corrugations prevent 100 per cent collapse under extreme kinking, yet allow hose to bend around small radii. Hose will spring back to full dimension if stepped on. Satin finish inside and outside will not scratch or mar surfaces hose may contact. Hose is available in 1½ and 2 in. ID sizes in 10-ft lengths. Made by **Durkee-Atwood Co.**, 216 Seventh St. N.E., Minneapolis 13, Minn.

▲ For more details circle NED-984 D8 on enclosed inquiry slip ▲



Simplifies Setting Up Conveyor Systems

Without special tools or special skill you can set up a Conveyor system to meet your particular requirements using the Conveyor Specialty Building Block Plan.

Standard UNIBILT Conveyor units fit together like building blocks . . . are interchangeable so you can easily alter the system to meet changing handling requirements.

Here's a way to save time and money through prefabrication and pre-engineering yet gain the advantages of a custom tailored conveyor system.

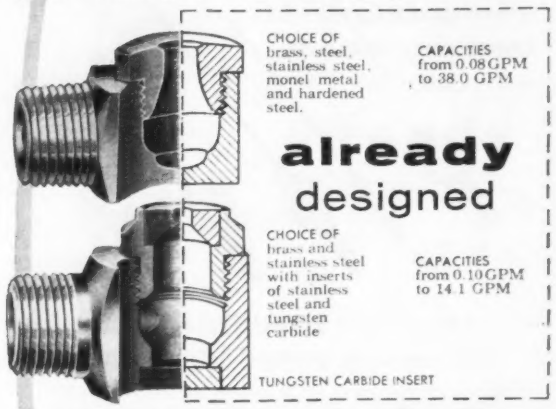
Write for descriptive literature to
CONVEYOR SPECIALTY COMPANY
37 Newport Avenue, North Quincy 71, Massachusetts
Distributors in principal cities

KEEP **CONVEYOR SPECIALTY** IN MIND

A complete line of package handling conveyors and conveyor systems.

▲ For more details circle NED-985 D8 on enclosed inquiry slip ▲

SPRAY NOZZLES



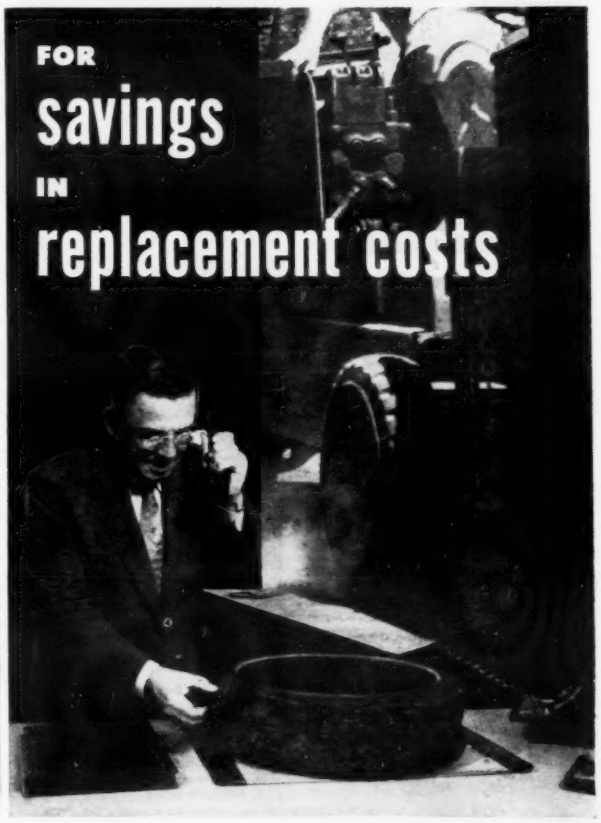
already designed

to meet your specifications

When you check Spraying Systems' Catalog 24 . . . the range of "standard" spray nozzle types, capacities and materials is so great in number . . . that it is rare when you cannot find a nozzle already made to meet your specifications, no matter how "special" your specifications might be. With Spraying Systems you gain the advantages of special nozzle performance characteristics at lower cost standard nozzle price. For complete information write for your free copy of the forty eight page reference Catalog 24.

SPRAYING SYSTEMS CO.
3211 RANDOLPH STREET • BELLWOOD, ILLINOIS
ADVANCED SPRAY NOZZLE DESIGN FOR NEW DIMENSIONS IN CONTROL AND PERFORMANCE

▲ For more details circle NED-986 D8 on enclosed inquiry slip ▲



call for MONARCH solid tires

"A penny saved is a penny earned"
. . . under today's tight business conditions, this childhood saying has become management's battle cry!

As profit margins get slimmer, even *necessary* replacement expenses must be kept to minimum. That is why saving-conscious buyers are specifying MONARCH industrial solid tires . . . for superior service and more mileage per dollar invested.

Reduce *your* materials handling costs. Use tough high-performance MONARCH tires for all types of lift truck applications.

ASK YOUR MONARCH DEALER . . . OR WRITE DIRECT . . . FOR CATALOG MR-457. IT HAS 16 PAGES OF FACTS, SPECIFICATIONS AND SUGGESTIONS TO HELP YOU SAVE MORE ON SOLID TIRES.

7910-MR

THE **MONARCH** RUBBER COMPANY
260 LINCOLN PARK
HARTVILLE, OHIO
- 7-255 General Motors Bldg., Detroit, Mich.
- 2353 No. California Ave., Chicago, Ill.
- 1045 No. 10th Street, San Jose, Calif.

▲ For more details circle NED-987 D8 on enclosed inquiry slip ▲

Instant Temperature Determinations *in seconds!*

XAC|EMP® Hand Pyrometers and Interchangeable Thermocouples

Here's all you need for quick, accurate temperature determinations in countless processes and operations—irregular and hard-to-reach surfaces, molten materials, dies, aircraft engine cylinders, driers, ovens, etc., and stationary or revolving surfaces. The XACTEMP line of hand pyrometers offers wide choice of models and range of applications.

Recommended for field service, laboratory, and production line use.

8279

Write for Bulletin No. XT-351 gives description, prices, and uses for all models.

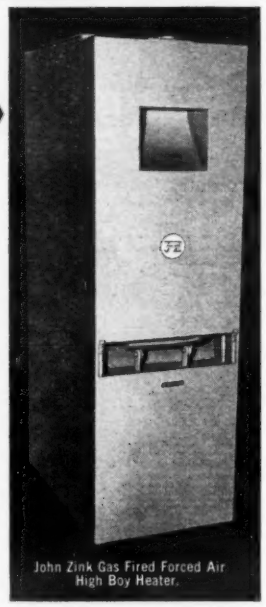
CLAUD S. GORDON CO.
Manufacturers • Engineers • Distributors
621 West 30th Street, Chicago 16, Illinois
2013 Hamilton Ave., Cleveland 14, Ohio

▲ For more details circle NED-988 D8 on enclosed inquiry slip ▲

In JOHN ZINK JZ GAS HEATERS...

KLIXON 202 Series fixed temperature control.

KLIXON SNAP-ACTING **CONTROLS** help hold field service to less than 1%



John Zink Gas Fired Forced Air High Boy Heater.

"We've specified and used KLIXON *snap-acting thermostats for several years and our field service has been held to less than 1%."*

That's how the John Zink Company of Tulsa, Oklahoma, manufacturers of this Gas Fired Forced Air High Boy Heater, feels about KLIXON Snap-Acting Controls.

The Zink Company is another of the many manufacturers who have maintained trouble-free, dependable service by using KLIXON controls. You, too, can benefit yourself and your customers by using these simple, snap-acting controls — available in many hermetically sealed and open types in a wide variety of operating temperature ranges.

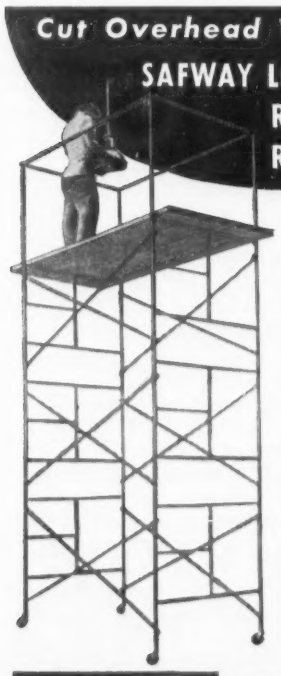
Write today for catalog THSN — it gives full details on the KLIXON temperature control line.

METALS & CONTROLS CORPORATION
Spencer Thermostat Division
3304 Forest Street
Attleboro, Mass.

▲ For more details circle NED-989 D8 on enclosed inquiry slip ▲

Cut Overhead Working Time!

SAFWAY LOW-COST TOWERS ROLL TO THE JOB, REACH HIGH WORK



MAINTENANCE MEN get around faster with a safe, handy Safway rolling scaffold tower!

Towers roll to the job on big swiveling casters and lock firmly for climbing and work completion...then unlock to follow the work or move on to another job.

Interchangeable steel scaffold parts assemble to any tower height or shape. Platform supports every 16 in. Built-in climbing ladder; 40" high guard rail.

For top economy, low-cost *"packaged"* towers are available in three useful heights—8 ft., 12 ft. and 16 ft. Base area 4 x 7 ft. Tower illustrated is 12 ft. high-

SAFWAY STEEL PRODUCTS, INC.
6213 W. State St., Milwaukee 13, Wis.

Write for FREE BULLETIN 84

▲ For more details circle NED-990 D8 on enclosed inquiry slip ▲

New Literature & Catalogs

Mercury Vapor Floodlights

Pyle-National Co.—Latest information on operation and color characteristics of mercury vapor lamps is featured in 18-page Bulletin 640. Sizes from 10 in., 100 w to 23 in., 1000 w are available. Heavy duty cast aluminum housings are moisture and dirtproof. A shortcut method for estimating floodlighting requirements with sample layout diagrams and selection tables is discussed.

▲ For more details circle NED-991 D8 on enclosed inquiry slip ▲

Copying & Toolmakers' Lathes

Carl Hirschmann Co.—Spring '58 Demonstration Issue features the new Dubied 514 and 515 copying lathes, the Kummer semiautomatic lathe, toolmakers' lathes, automatics, pivot burnishers, twist drill and carbide tool grinders, jig borers, and high power optical projectors and comparators. Catalog lists the dates for regional demonstrations by factory technical consultants.

▲ For more details circle NED-992 D8 on enclosed inquiry slip ▲

Air Gage Members

Freeland Gauge Co.—"General Reference and Order Guide" on air gage members for all circuits orients reader in the general principles of basic air gage instrument design and engineering. Sections treat air gaging as a dimensional measuring science and the back pressure, flow, and differential types of air gage circuits.

▲ For more details circle NED-993 D8 on enclosed inquiry slip ▲

Glass Plant Building & Remodeling

Toledo Engineering Co.—Glass plant equipment designed and built to meet specific requirements is illustrated in 32-page brochure. Company specializes in building complete glass plants, remodeling and repairing existing ones, and making hot repairs. Equipment for making sheet and flat glass, containers and bottles, and special glasses is shown.

▲ For more details circle NED-994 D8 on enclosed inquiry slip ▲

Coil Handling Equipment

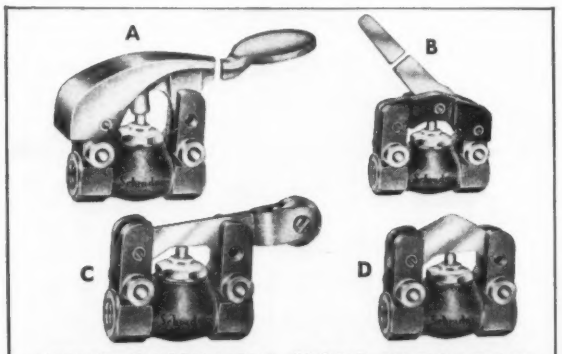
F. J. Littell Machine Co.—Compiled as an auxiliary to main Catalog 57, this condensed catalog comprehensively discusses modern equipment for handling, reeling, straightening, and feeding coil stock. Among equipment covered are reels from 100-lb to 20-ton capacity and coil cradles up to 30,000-lb capacity.

▲ For more details circle NED-995 D8 on enclosed inquiry slip ▲

Flow Meter Secondary Instruments

Builders-Providence, Inc.—Fact-filled Bulletin 380-L3A of 8 pages describes line of secondary instruments and accessory devices available for changing the Propeloflo liquid flow meter from a totalizing unit to one suitable for any combination of remote totalizing, indicating, and recording functions, or for the batch measurement of liquid flows.

▲ For more details circle NED-996 D8 on enclosed inquiry slip ▲



MORE COMPACT! MORE VERSATILE!

NEW Schrader® 2-and 3-way air control poppet valves

Interchangeable actuating levers bring new flexibility to these sturdy, space-saving air control valves. A single unit can now be quickly adapted to cam, roller tripper, or manual actuation. The compact body provides easy application of these valves to all types of air controls.

This new series features a specially designed brass body with ¼" ports and convenient "in-line" mounting holes. Air flow capacity is 70 cubic feet per minute, at 100 psi inlet pressure. Shown above: A) hand lever, B) hand lockdown lever, C) roller lever, D) solid angle lever types. Write for free Schrader catalog.

A. SCHRADER'S SON
Division of SCOVILL
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

▲ For more details circle NED-997 D8 on enclosed inquiry slip ▲

New Fibre Glass Coating solves all roof problems!

A new fibre glass roof coating that has absolutely no cold flow up to 140° F is available from The Garland Co., Cleveland 5, Ohio.

Known as Fibre Glass Supercote, it contains millions of glass fibres that prevent movement of the asphalt cover and sagging or pulling away from high spots in temperatures up to 140° F. Because flow is prevented, oxidation of more than the thin top layer is stopped. This eliminates the major cause of roof leaks—evaporation of underlying asphaltic oils.

In addition to fibre glass, new Supercote is formulated with special plasticizers and waterproofing oils. These penetrate and resaturate dried out roofing felts, keep coating from becoming brittle and provide a positive bond to old roof surfaces. Addition of long fibre asbestos further increases wear and weather resistance.

Fibre Glass Supercote can be easily applied with roofing brush or squeegee over felt, composition, tin and corrugated iron, concrete and built-up roofs. It also is suitable as a final protective coating around sidewalls, chimneys, parapets, skylights and firewalls. Available in 5-gallon pails, 30 and 55-gallon drums.

For additional information, request bulletin A525. The Garland Co., 3748 E. 91st Street, Cleveland 5, Ohio. *Adv.*

▲ For more details circle NED-998 D8 on enclosed inquiry slip ▲

SELF-PROPELLED DIESEL AIR COMPRESSOR

SELF-PROPELLED DIESEL AIR COMPRESSOR

Does all kinds of plant maintenance work
Costs no more than towed portables

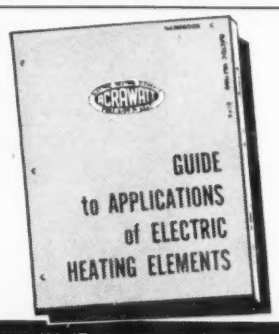
The Schramm 125 cfm Heavy Pneumatractor can do all types of maintenance jobs in your plant that call for a tractor or compressor. It's a self-propelled air compression plant *and* a wheel tractor—converting instantly from one to the other, right from the instrument panel. No trucks. No towing. No wasted manpower. One man drives *and* operates the Pneumatractor. And it costs no more than ordinary towed portables.

Write for Catalogs 5740 and PD-57 or see your Schramm Dealer.

Schramm, Inc.
MANUFACTURERS OF AIR COMPRESSORS
700 North Garfield Ave. • West Chester, Pa.

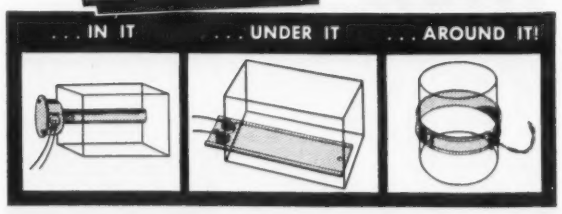
SELF-PROPELLED DIESEL AIR COMPRESSOR

▲ For more details circle NED-999 D8 on enclosed inquiry slip ▲



FREE HANDBOOK tells you how to apply HEAT

...IN IT ...UNDER IT ...AROUND IT!



Electric heating units for every need

• Food warming and vending equipment • Heat sealing • Packaging • Aircraft or missile equipment • Liquid heaters • Sterilizers • Space and baseboard heating • Refrigeration • Air conditioning • Tire recapping • Rubber molding equipment • Laboratory ovens • Incubators • 100's of other heat applications.

Save money on your new products with our engineering services

ACRA ELECTRIC CORPORATION
9907 Pacific Ave., Franklin Park, Ill.
Gladstone 5-4777

ACRAWATT ELECTRIC HEATING ELEMENTS "PRECISION IN HEAT"

8244

20 YEARS APPLICATION ENGINEERING & MANUFACTURING EXPERIENCE

▲ For more details circle NED-1000 D8 on enclosed inquiry slip ▲

Remains of a removed broken drill.

This ¼" HS drill was embedded 2" in a crankshaft oil hole. An Elox M-310 Electron Drill removed it in 7 minutes and cost . . .

.02 . . . . . for a .125" copper electrode
.19 . . . . . for labor (@ $2.25 per)
.01 . . . . . for electricity

22¢ of time, labor and material to restore a part worth approx. $18!

Elox can work for you saving your valuable parts: • Corrective machining after heat treating • Die salvage, drilling bolt holes, lubricant holes • Machining odd shapes in all metals.

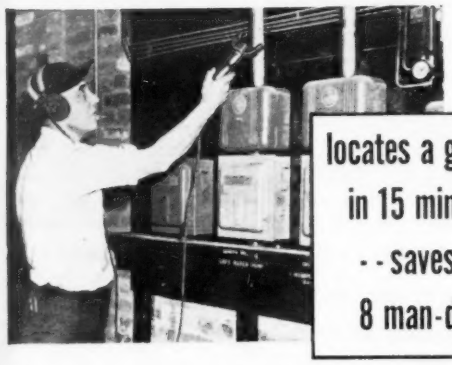
*TM Reg.

elox* corporation of michigan

1838 N. Stephenson Highway, Royal Oak 3, Mich.

For more details circle NED-1001 D8 on enclosed inquiry slip

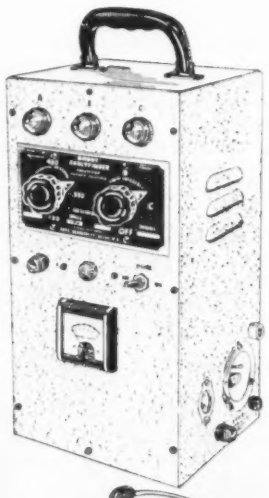
AN ALERT ENGINEER



locates a ground in 15 minutes - - saves 8 man-days

During conversion of a large plant* from 220 volt to 440 volt, a severe ground occurred on one phase. The outside contractor who had done the rewiring was unable to locate the ground. When the Faultfinder demonstrator arrived, the Plant Engineer had just left the manager's office, having secured approval of a work order for four electricians to work overtime on the coming week-end in order to locate and clear the ground. Instrument was located at the main panel in vault. Signal led underground to an adjacent building and then upwards to third floor panel and from there to explosion-proof motor on a mixer. The motor was shut off and the ground cleared. Subsequent inspection showed this motor to be grounded. The work order was cancelled and the plant purchased a Faultfinder immediately. Total time required for Faultfinder to locate ground—15 minutes.

*Name on request.



Put the BRUNT FAULTFINDER to work for you

•

Universal Model #58
(110V to 600V, AC or DC)

$550.00

Features:

- Locates faults on ungrounded wiring systems up to 600 volts, AC or DC, while they are energized.
- Unnecessary to pull switches or tie up production.
- Combination Ground Detector and Fault Locator.
- Imposes only 2 amps on circuit—cannot damage equipment on line.
- Traces pole line signal without climbing, locates underground cables or pipes.
- No delicate meters to adjust.
- Light, compact and durable.
- Easy one-man operation.

Send for free, illustrated booklet

PARR MANUFACTURING CORP.
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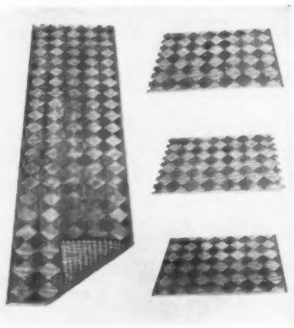
New Processes & Materials

RUBBER FLOOR RUNNERS
sections interlock to any length



Air cells in honeycomb type rubber floor runners insulate standing workers' feet against cold and dampness. Firm cushioning minimizes foot fatigue. Sections of the Shadow Strip runners interlock to form any length required. They also minimize breakage where fragile objects are handled. Runners are made in marbelized colors and in utility black. Oil and greaseproof rubber is also available. Made by **R. L. Mitchell Rubber Products, Inc.**, Dept. L, 2128 San Fernando Rd., Los Angeles 65, Calif.

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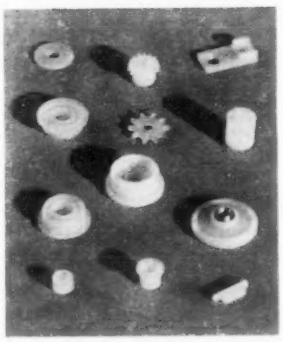

Rollers, roller bearings, slide bearings, and gears are among nylon parts available from open stock for quick delivery. Stock parts such as closures, spacers, bumpers, wire tips, and bearings of high density polyethylene, standard polyethylene, and butyrate are also available. Company specializes in small industrial plastic parts, both injection molded and extruded. Custom parts can also be supplied. **Pipco International Corp.**, Dept. 12, 1757 Stanford St., Santa Monica, Calif.

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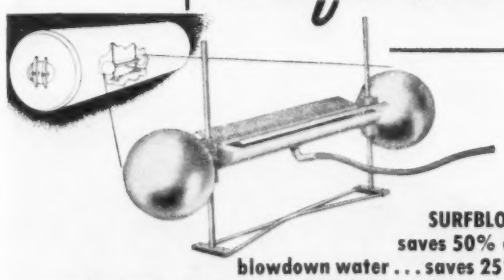

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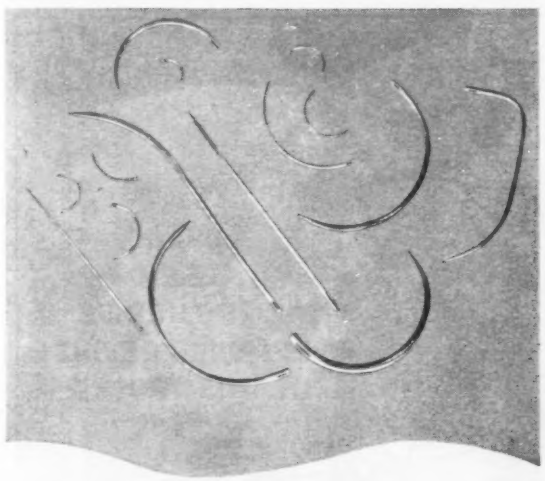

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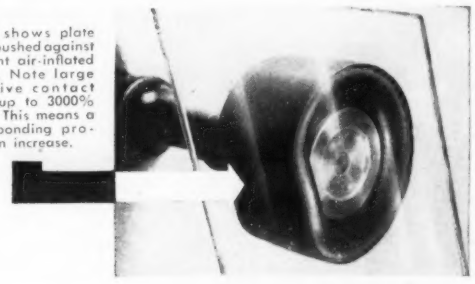

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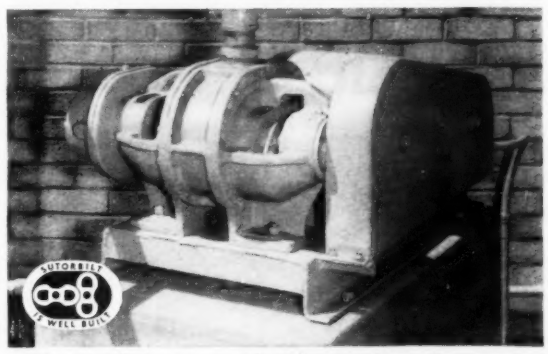

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3 amperes 125 volts (lamp load)
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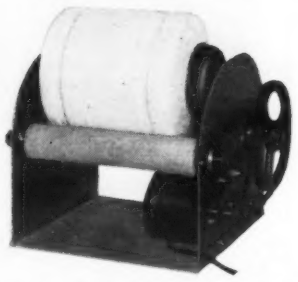
ECONOMY RoLab

SINGLE JAR LAB MILL



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ECONOMY MANUFACTURING CO.
DEPT. N. BOX 755 EAST LIVERPOOL, OHIO

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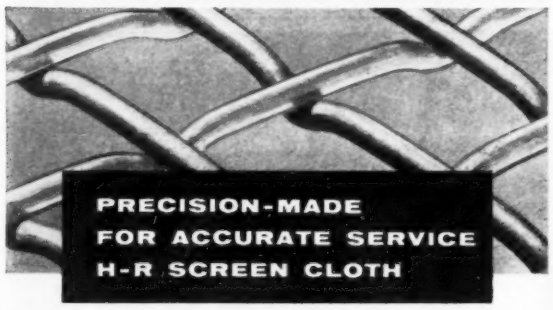

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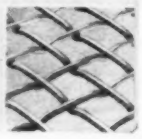

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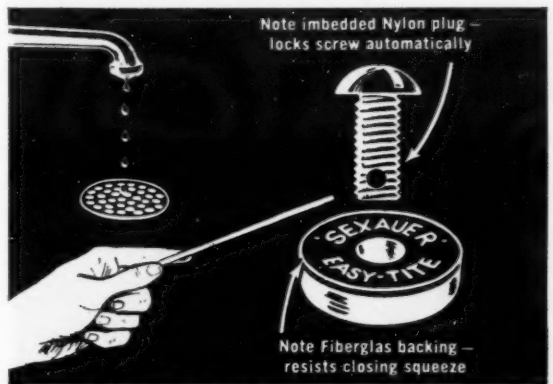

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★ **9 out of 10 washers are fastened with screws that are TOO LONG or SHORT. The screws quickly loosen; the loosened washers are destroyed thru grind and squeeze of opening and closing faucets.**

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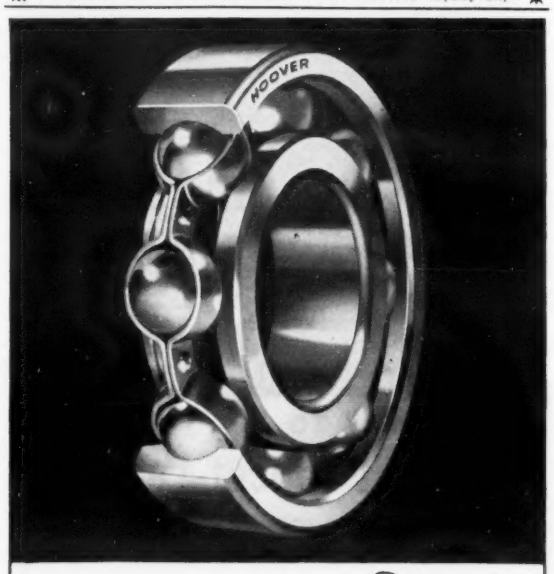

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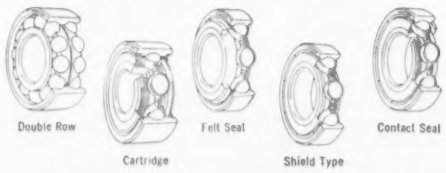

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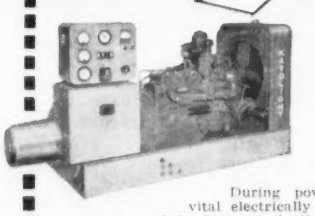

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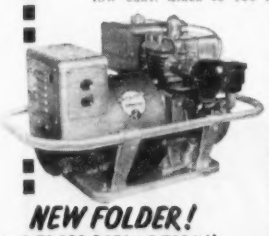

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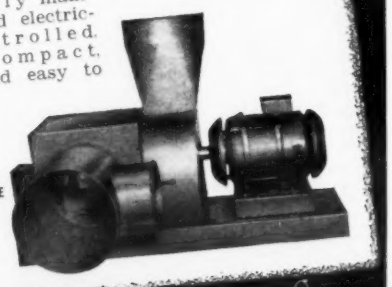

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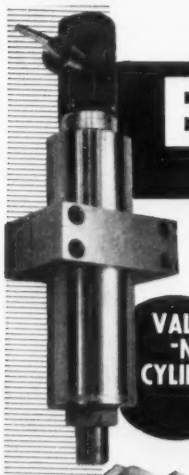

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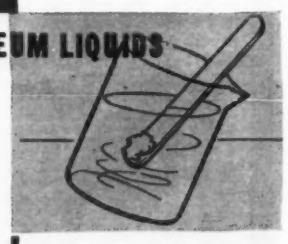

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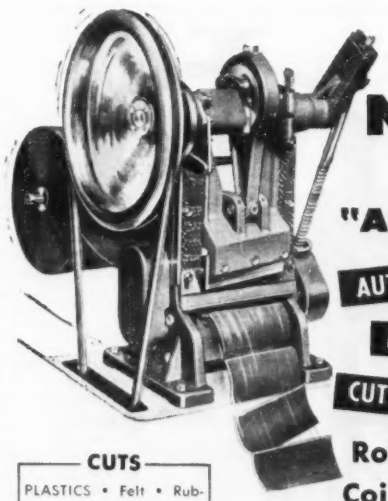

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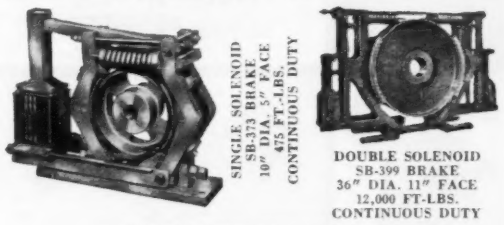

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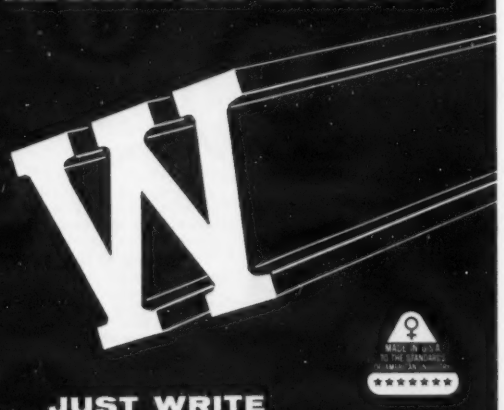

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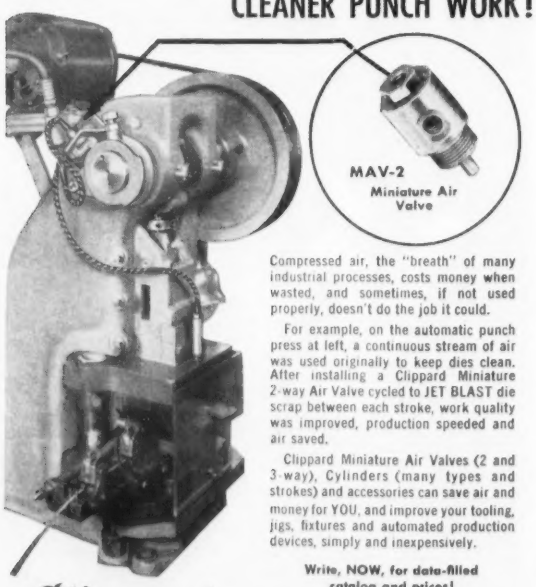

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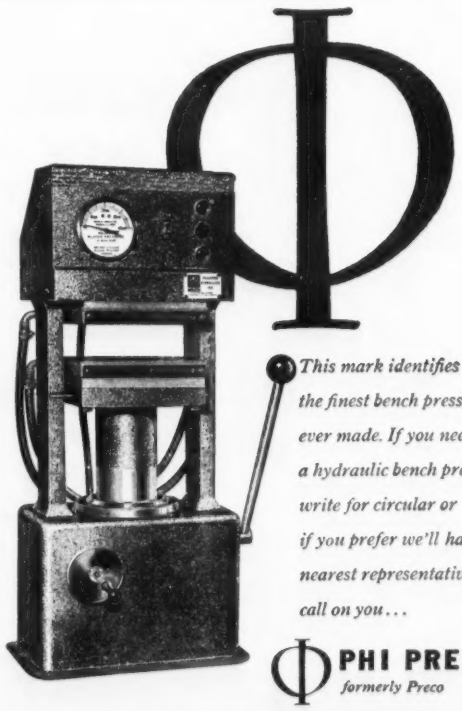

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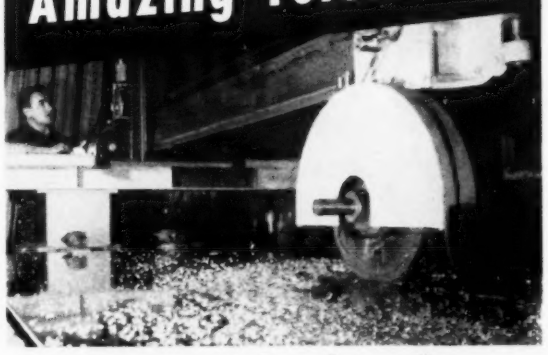

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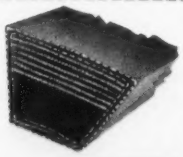

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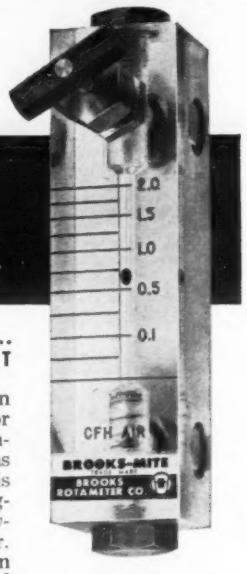

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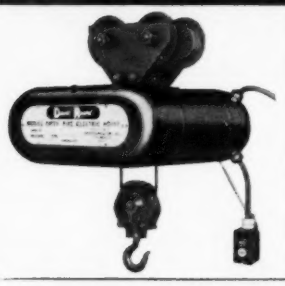

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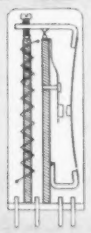

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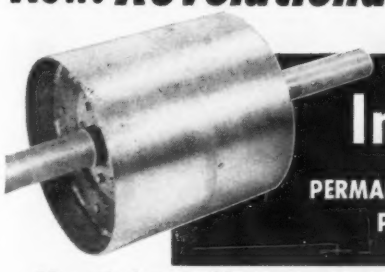

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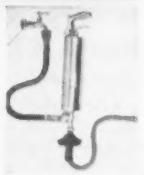

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